

# NAVAL POSTGRADUATE SCHOOL MONTEREY, CALIFORNIA



## THESIS

DTIC QUALITY INSPECTED 4

**THE EVOLUTION OF THE DEPARTMENT OF  
THE NAVY'S CAPITATION-BASED RESOURCE  
ALLOCATION MODEL AND ITS IMPACT ON  
RESOURCE MANAGEMENT AT NAVY  
MEDICAL TREATMENT FACILITIES**

by

Manuel E. Naguit

December, 1996

Thesis Advisor:  
Associate Advisor:

Richard B. Doyle  
Steven R. Lamar

Approved for public release; distribution is unlimited.

19970623 285

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE December 1996	3. REPORT TYPE AND DATES COVERED Master's Thesis		
4. TITLE AND SUBTITLE: THE EVOLUTION OF THE DEPARTMENT OF THE NAVY'S CAPITATION-BASED RESOURCE ALLOCATION MODEL AND ITS IMPACT ON RESOURCE MANAGEMENT ON A NAVY MEDICAL TREATMENT FACILITIES		5. FUNDING NUMBERS		
6. AUTHOR(S) Manuel E. Naguit		8. PERFORMING ORGANIZATION REPORT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey CA 93943-5000		10. SPONSORING/MONITORING AGENCY REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.		
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.		12b. DISTRIBUTION CODE		
13. ABSTRACT (maximum 200 words) In 1994, DoD implemented managed care and a capitation-based resource allocation model within the Military Health Services System (MHSS). This study examines the evolution of DoD's model and its impact on resource managers. Personal and telephonic interviews were conducted with key individuals from the Office of the Secretary of Defense for Health Affairs (OASD(HA)), Bureau of Medicine and Surgery (BUMED), and at the Military Treatment Facility (MTF) level. A review of literature, including books, white papers, monographs, and journal articles were undertaken. The thesis concludes that the capitation methodology that OASD(HA) and the Services follow is a population-based model. BUMED allocates Defense Health Program (DHP) funds on the basis of capitation categories down to the activity level. However, the MTF resource manager apportions DHP funds to the departments based on historical and workload considerations. Due to a lack of a patient cost accounting module in the present accounting system, actual execution against a capitated resource allocation is not possible. Because of other limitations in the present structure, MTFs under BUMED still use traditional incremental budgeting in allocating funds to their various departments. Thus, the adoption and implementation of a capitated-based financing system had limited impact on resource management at the activity level.				
14. SUBJECT TERMS Capitation, managed care, health maintenance organizations, health care financing, per capita payments, capitation-based budgeting system.		15. NUMBER OF PAGES 177		
		16. PRICE CODE		
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL	



Approved for public release; distribution is unlimited.

**THE EVOLUTION OF THE DEPARTMENT OF THE NAVY'S  
CAPITATION-BASED RESOURCE ALLOCATION MODEL  
AND ITS IMPACT ON RESOURCE MANAGEMENT AT  
NAVY MEDICAL TREATMENT FACILITIES**

Manuel E. Naguit  
Lieutenant, Medical Service Corps, United States Navy  
B.S.C., Far Eastern University, Philippines, 1979

Submitted in partial fulfillment  
of the requirements for the degree of

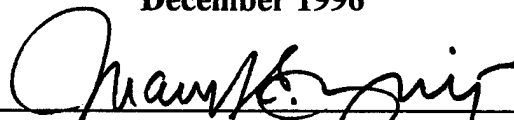
**MASTER OF SCIENCE IN MANAGEMENT**

from the

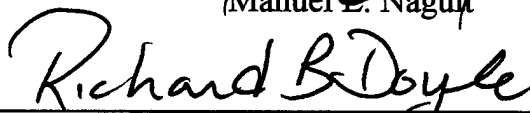
**NAVAL POSTGRADUATE SCHOOL**

**December 1996**

Author:

  
Manuel E. Naguit

Approved by:



Richard B. Doyle, Thesis Advisor



Steven R. Lamar, Associate Advisor

 for  
Reuben Harris, Chairman, Department of Systems Management



## **ABSTRACT**

In 1994, DoD implemented managed care and a capitation-based resource allocation model within the Military Health Services System (MHSS). This study examines the evolution of DoD's model and its impact on resource managers. Personal and telephonic interviews were conducted with key individuals from the Office of the Secretary of Defense for Health Affairs (OASD(HA)), Bureau of Medicine and Surgery (BUMED), and at the Military Treatment Facility (MTF) level. A review of the literature on capitation and managed care, including books, white papers, monographs, and journal articles were undertaken. The thesis concludes that the capitation methodology that OASD(HA) and the Services follow is a population-based model. BUMED allocates Defense Health Program (DHP) funds on the basis of capitation categories down to the activity level. However, the MTF resource manager apportions DHP funds to the departments based on historical and workload considerations. Due to a lack of a patient level cost accounting module in the present accounting system, actual execution against a capitated resource allocation is not possible. Because of other limitations in the present structure, MTFs under BUMED still use traditional incremental budgeting in allocating funds to their various departments. Thus, the adoption and implementation of a capitation-based financing system had limited impact on resource management at the activity level.



## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
A.	GENERAL .....	1
B.	BACKGROUND .....	1
C.	RESEARCH QUESTIONS .....	4
D.	SCOPE .....	5
E.	LIMITATIONS .....	6
F.	LITERATURE REVIEW AND METHODOLOGY .....	6
G.	DEFINITIONS, ABBREVIATIONS, AND ACRONYMS .....	7
H.	CHAPTER OUTLINE .....	7
II.	CAPITATION BUDGETING IN THE CIVILIAN MANAGED CARE ENVIRONMENT .....	9
A.	MANAGED HEALTH CARE .....	9
1.	Definition .....	10
2.	Growth and Development .....	12
3.	A Continuum of Models .....	16
a.	Health Maintenance Organizations (HMOs) .....	16
b.	Preferred Provider Organizations (PPOs) .....	17
c.	Point of Service (POS) Plans .....	18
d.	Hybrid of Health Care Alternatives .....	19
4.	Elements of a Managed Care Network .....	20
a.	Access .....	21



b.	Quality Services and Outcomes . . . . .	22
c.	Utilization Management . . . . .	22
d.	Risk Sharing . . . . .	23
5.	Summary . . . . .	24
B.	CAPITATION . . . . .	26
1.	Definition . . . . .	26
2.	Objectives and Theory . . . . .	27
3.	Characteristics . . . . .	28
a.	Benefits . . . . .	29
b.	Risk Sharing . . . . .	29
c.	Incentives . . . . .	30
(1)	Positive Incentives . . . . .	30
(2)	Negative Incentives . . . . .	31
d.	Innovations. . . . .	32
(1)	Information Technology . . . . .	32
(2)	Incentive Pay . . . . .	33
(3)	Patient Access System . . . . .	34
e.	Rate Setting Methodology . . . . .	35
(1)	Community Rating . . . . .	36
(2)	Experience Rating . . . . .	36
C.	PRINCIPAL ADVANTAGES . . . . .	37
D.	PRINCIPAL DISADVANTAGES . . . . .	37

E.	POTENTIAL PROBLEMS .....	38
F.	SUMMARY .....	39
III.	MANAGED CARE IN THE MILITARY HEALTH SERVICES SYSTEM ...	41
A.	THE MILITARY HEALTH SERVICES SYSTEM (MHSS) .....	41
1.	The Direct Care System .....	43
2.	The Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) .....	45
3.	The TRICARE Program .....	48
a.	Triple Option Benefit Structure .....	48
4.	Lead Agents .....	51
5.	Managed Care Support (MCS) Contracts .....	54
6.	Specialized Treatment Services (STS) .....	55
B.	PROBLEMS IN THE PROVISION OF MILITARY HEALTH CARE .....	56
1.	The Department of the Navy's Medical Mission .....	56
2.	The Problem of High Use .....	59
a.	Outpatient Care .....	59
b.	Inpatient Care .....	60
C.	CAPITATION-BASED RESOURCE ALLOCATION IN THE MILITARY HEALTH SERVICES SYSTEM (MHSS) .....	61
1.	Capitated Budgeting .....	62
2.	Transition of Capitation Budgeting in the MHSS .....	63
a.	Chronology of Events .....	65
3.	Basic Resource Allocation Plan .....	66

a.	Operation and Maintenance (O&M) and Military Personnel (MILPERS) Resources . . . . .	67
b.	CHAMPUS Resources . . . . .	68
4.	Transfer Payments . . . . .	70
5.	Shared Resource Management . . . . .	71
6.	The Bid Price Adjustment (BPA) Formula . . . . .	73
D.	HEALTH AFFAIRS MODIFIED CAPITATION MODEL . . . . .	76
1.	Capitation Category I - Overseas and Military Unique Non-Capitated . . . . .	77
2.	Capitation Category II - Military Unique Capitated Functions and Education and Training . . . . .	78
3.	Capitation Category III - Capitated Medical Care . . . . .	78
4.	Defined Beneficiary Population . . . . .	80
5.	Calculation of the FY94 Capitated Rate . . . . .	81
E.	SUMMARY . . . . .	82
IV.	CAPITATION IN THE DEPARTMENT OF THE NAVY . . . . .	83
A.	CAPITATION IN BUMED . . . . .	83
1.	Direct Care Dollars . . . . .	88
2.	Nonpatient Care Dollars . . . . .	88
3.	CHAMPUS Dollars . . . . .	89
4.	MILPERS Dollars . . . . .	90
B.	INFORMATION SYSTEMS TO SUPPORT BUMED'S CAPITATION MODEL . . . . .	91
1.	BUMED's Annual Work and Resource Evaluation (AWARE) Program . . . . .	91

2.	Composite Health Care System (CHCS) .....	92
3.	Medical Expense and Performance Reporting System/ Expense Assignment System (MEPRS/EAS III) .....	93
4.	Resource Analysis and Planning (RAPS) .....	93
5.	Defense Enrollment Eligibility Reporting System (DEERS) .....	94
6.	Defense Medical Information System (DMIS) .....	94
7.	Retrospective Case Mix Analysis System for Open System Environment (RCMAS-OSE) .....	95
8.	Catchment Area Billing Report (CABR) .....	96
9.	Regional Paid Data Management Report (RPDMR) .....	96
C.	READINESS-FOCUSED CAPITATION .....	97
1.	Impact of Readiness-Focused Capitation .....	103
a.	Fixed Costs and Other Business Operating Costs .....	103
b.	CONUS Healthcare Readiness Infrastructure Sizing Model (CHRISM) .....	104
D.	SUMMARY .....	106
V.	IMPLEMENTATION ISSUES .....	107
A.	GENERAL .....	107
B.	MAJOR OBSTACLES TO THE ADOPTION OF A CAPITATION- BASED APPROACH WITHIN THE MHSS .....	108
1.	Incentives and Motivating Factor (Profit) .....	109
2.	Single Enrollment Plan and Inaccuracy in Population Data . . .	112
3.	Capitation and Management Information Systems .....	114

4.	Shift in Emphasis from Inpatient to Outpatient Care and Preventive Services . . . . .	117
C.	OTHER IMPLEMENTATION ISSUES . . . . .	119
1.	Incomplete and Inaccurate Data . . . . .	119
2.	Preventing the Shifting of Workload to Another MTF . . . . .	122
3.	Exclusion of Fixed Costs in the MHSS Capitation Model . . . . .	124
4.	Physician Involvement in Transition to Capitation . . . . .	126
D.	CAPITATION AND THE MTF COMMANDER . . . . .	128
E.	CAPITATION AND RESOURCE MANAGERS AT THE MTF LEVEL . . . . .	130
VI.	SUMMARY AND CONCLUSIONS . . . . .	133
A.	SUMMARY . . . . .	133
B.	CONCLUSIONS . . . . .	134
C.	AREAS FOR FURTHER RESEARCH . . . . .	138
	APPENDIX A. MANAGED HEALTH CARE ORGANIZATIONS . . . . .	139
	APPENDIX B. STEPS IN DEVELOPING OASD(HA)'S CAPITATION REQUIREMENT . . . . .	143
	APPENDIX C. METHODOLOGY TO DEVELOP A USER POPULATION FOR OASD(HA)'S CAPITATION-BASED RESOURCE MODEL . . . . .	145
	LIST OF REFERENCES . . . . .	147
	INITIAL DISTRIBUTION LIST . . . . .	153

## LIST OF FIGURES

1.	Four Key Elements of a Managed Care Network . . . . .	20
2.	Flow of Funds from Defense Health Program (DHP) . . . . .	43
3.	Navy Medicine's Dual Mission . . . . .	58
4.	DHP Resources Category - FY97 . . . . .	77
5.	Capitation Category III Funding: Relationships of the Funding Subcategories and Their Respective Drivers . . . . .	79
6.	Health Affairs' Modified Capitation Formula . . . . .	81
7.	BUMED's Capitation Allocation Process . . . . .	84
8.	Flow of DHP's Funds Under "Readiness-Focused" Capitation . . . . .	101
9.	BUMED's Total Readiness Alignment Plan . . . . .	105



## LIST OF TABLES

3.1	TRICARE Option Costs for Active-duty Family Members . . . . .	50
3.2	TRICARE Option Costs for Retirees, Survivors and Their Family Members . . . . .	51
3.3	TRICARE Regional Breakdown . . . . .	54
4.1	BUMED's Capitation Budgeting Categories . . . . .	85
4.2	BUMED's FY96 Funding Base . . . . .	86
4.3	Summary of AWARE Data . . . . .	92





## LIST OF ACRONYMS

ADS	Ambulatory Data System
AIS	Automated Information System
AWARE	Annual Work and Resource Evaluation
BRAC	Base Realignment and Closure
BUMED	Bureau of Medicine and Surgery
BUPERS	Bureau of Personnel
CABR	Catchment Area Billing Report
CAPS	CHAMPUS Actuarial Projection System
CAT	Category
CBO	Congressional Budget Office
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
CHCS	Composite Health Care System
CHRISM	CONUS Healthcare Readiness Infrastructure Sizing Model
CNO	Chief of Naval Operations
CONUS	Continental United States
CRI	CHAMPUS Reform Initiative
DEERS	Defense Enrollment Eligibility Reporting System
DHP	Defense Health Program
DMIS	Defense Medical Information System
DOD	Department of Defense
DON	Department of the Navy
DPG	Defense Planning Guidance
DRG	Diagnosis-Related Group
EAS III	Expense Assignment System III
EOB	Expense Operating Budget
FI	Fiscal Intermediary
FMF	Fleet Marine Force
FTE	Full Time Equivalent
FY	Fiscal Year
GAO	General Accounting Office
GME	Graduate Medical Education
GNP	Gross National Product

HCFA	Health Care Financing Administration
HMO	Health Maintenance Organization
HSR	Health Service Region
HSO	Healthcare Support Office
ICONUS	Isolated Continental United States
IPO	Independent Provider Organization
MCS	Managed Care Support
MCSC	Managed Care Support Contract
MEPRS EAS III	Medical Expense Performance and Reporting Systems - Expense Assignment System III
MHSS	Military Health Services System
MILPERS	Military Personnel
MRP	Maintenance of Real Property
MTF	Medical Treatment Facility
NAS	Nonavailability Statement
NAVCARE	Naval Primary Care Contracted Clinics
NH	Naval Hospital
NPS	Naval Postgraduate School
OASD/HA	Office of the Assistant Secretary of Defense (Health Affairs)
OCHAMPUS	Office of the Civilian Health and Medical Program of the Uniformed Services
OCONUS	Outside the Continental United States
O&M	Operations and Maintenance
OP	Other Procurement
OPAE	Office of Program Analysis and Evaluation
PCM	Primary Care Manager
POS	Point-of-Service
POM	Program Objective Memorandum
PPO	Preferred Provider Organization
RAP	Readiness Alignment Plan
RAPS	Resource Analysis and Planning System
RCMAS	Retrospective Case Mix Analysis System
RPDMR	Regional Paid Data Management Report
SECNAV	Secretary of the Navy
SITREP	Situation Report
STS	Specialized Treatment Services

THCSRR	Total Health Care Support Readiness Requirement
TPC	Third Party Collection
TPCP	Third Party Collection Program
USA	United States Army
USAF	United States Air Force
USN	United States Navy
UM	Utilization Management



## ACKNOWLEDGMENT

I would like to thank both my Thesis Advisor, Dr. Richard Doyle, and Associate Advisor, CAPT Steven Lamar, MSC, USN (Ret) for their assistance and guidance throughout the thesis process. I also want to thank the following individuals who helped me gather data and/or provided personal interviews: CAPT James Scaramozzino, CDR Virginia Leibold, Ms. Lisa Sullivan, LCDR Scott Foster, LT Lorraine Nudd, and COL Paul Frederick.

I would like to give a special thanks to Mrs. Vinta Shumway, who helped me gather the preliminary literature for this effort and provided proofreading service. In addition, I wish to thank my wife and children for their untiring support, understanding, and consideration during this endeavor, for which I am eternally grateful.



## **I. INTRODUCTION**

### **A. GENERAL**

This thesis will evaluate the capitation-based resource allocation model adopted by the Department of Defense (DoD) and implemented within the Military Health Services System (MHSS). It will also examine how this model has evolved and its impact on resource managers at the Navy's medical treatment facility (MTF). Discussions will also include the capitation-based financing system used in the private sector, and the incentives, major advantages and disadvantages associated with a capitation payment mechanism. This study concludes with a discussion of the major obstacles, problems, and implementation issues in implementing a capitation-based financing system within the MHSS.

### **B. BACKGROUND**

It is well known that in the past ten years health care costs in the United States have risen at an alarming rate. Although inflation was experienced by American industry in general, health care and related service costs were, and remain, excessive compared to the overall economy (Iglehart, 1995, p. 3). The Congressional Budget Office (CBO) reports that federal spending for health care as a percentage of total federal spending has increased from approximately 11 percent in 1980 to about 17 percent in 1993 (CBO, 10 May 1993). CBO also noted that inflation in the U.S. health care sector has risen by 7.9 percent a year from 1982 to 1991. This is almost twice the rate of growth in the overall Consumer Price Index during that period (4.1 percent) (CBO, 1993, p. 10).



During this same period, spending for the Military Health Services System (MHSS) also rose rapidly, requiring an increasing portion of the Department of Defense (DoD) budget (GAO, 22 March 1995). Military health care spending (including CHAMPUS) went from approximately \$4 billion in FY81 to about \$14.5 billion in FY93 (CBO, 10 May 1993). At the same time, the military is facing unprecedented challenges in managing reduced resources. Department of Defense spending declined 39 percent in real terms between 1985 and 1997 (Congressional Research Service, 22 August 1996).

The MHSS is one of the nation's largest health care systems, offering health care benefits to about 8.3 million people and costing more than \$15 billion annually. The primary mission of the MHSS is to maintain readiness by providing for the health care of approximately 1.7 million active-duty service personnel and by being prepared to deliver health care during times of war. Simultaneously, there are approximately 6.6 million non-active-duty beneficiaries who receive health care through the MHSS, 29 percent of which are active duty families and 50 percent are military retirees and their families (GAO, 22 March 1995).

The Military Medical Departments have traditionally programmed and budgeted for health programs using historical consumption and workload trends. However, for the past ten years the MHSS has been under close scrutiny and extensive restructuring because of rapidly rising costs and limited budgets. Real and forecasted changes within the MHSS have created a need to transition from a disease-based, workload measure to a modified capitation-based methodology. (GAO, 22 March 1995)

DoD adopted a modified capitation-based methodology in FY94 for resourcing the MHSS. This change is directed primarily by the Office of the Assistant Secretary of Defense for Health Affairs (OASD(HA)), as a strategy for containing the cost of health care. Subsequently, the Military Medical Departments have developed their own Service-specific methodologies to re-allocate resources by capitation to the catchment area level. At a minimum, the methodology, or methodologies, must address total cost, including Operations and Maintenance (O&M) Direct Care, O&M CHAMPUS, Military Personnel (MILPERS), and a defined population of beneficiaries. (OASD(HA) Memorandum, 23 July 1993)

For OASD(HA), hereafter referred to as Health Affairs, the number of estimated "users" determines population instead of eligible beneficiaries. The three Services, however, in formulating their service unique capitation methodology, used "eligible" beneficiaries instead of actual users in allocating DHP funds to help their MTFs transition to a capitated system (OASD(HA) Memorandum, 23 July 1993).

Under this capitation system, the local commander of each MTF assumes responsibility for providing health services to a defined population, for a fixed amount per beneficiary. In this approach, regardless of the amount of services used, there is no financial incentive to inappropriately increase the number of services or to provide more costly care than is clinically appropriate. A capitation-based resource allocation model is designed to discourage inappropriate admissions, unnecessarily long lengths of stay, and unwarranted services.

To be successful and effective in implementing a capitated payment mechanism, private sector HMOs require enrollment of their beneficiaries. Another key ingredient in the successful implementation of a capitation-based payment system is improved and integrated resource data. Since “closed enrollment” was not feasible for the MHSS, and a sophisticated management information system to support capitation was not yet available, Health Affairs, in concert with the Services, developed and adopted a modified financial-based capitation model for use in determining resource allocation to the MHSS.

This modified capitation model is a population-driven methodology that accounts for unique military, medical-related functions. The model has three major categories: (1) Military Medical Support, (2) Military Unique Capitation, and (3) Medical Capitated Cost (OASD(HA) Memorandum, 23 July 1993). It has been further adapted to incorporate some of the concepts of managed care. The central idea of managed care is to use capitation as one of its approaches to containing costs while assuming accessibility and high quality of health care services.

### **C. RESEARCH QUESTIONS**

The primary question that this thesis endeavors to answer is: How does the Bureau of Medicine and Surgery (BUMED) implement a capitation-based resource allocation concept, and how is this model being employed to shape budget development at the activity level? To answer the primary question, five subsidiary research questions will be addressed:

- What are the origins and purpose of capitation-based resource allocation?
- Why and when did the DoD adopt a capitation-based approach to financing the MHSS?
- What are the major obstacles to the adoption of a capitation-based approach within the MHSS, and how is DoD addressing these obstacles?
- What is the capitation-based resource allocation model adopted by BUMED and how has it changed its budgeting process to meet specific issues affecting Navy medicine?
- What are the implications of a capitation-based resource allocation model for resource managers at the activity level (i.e., Naval Medical Center, San Diego, California and Naval Hospital, Corpus Christi, Texas)?

#### **D. SCOPE**

This thesis will consist of an examination of the capitation-based resource allocation model as currently employed by Health Affairs and the Department of the Navy. It includes the relevant historical and background information, the information systems supporting capitation, and the specific calculations used in the determination of major capitation categories and capitated rates. It also notes the evolution of DoD's capitation-based resource allocation model and discusses its impact on resource managers at the activity level.

In addition, this research will evaluate BUMED's approach to a capitation-based budgeting system. Understanding the methodology employed by BUMED requires an examination of the major obstacles involved in adopting and implementing a capitation-based resource allocation model, the impact of a capitation-based budgeting system on

Navy MTF commanders and resource managers, and other issues involved in implementing a capitated financing system.

#### **E. LIMITATIONS**

This thesis is limited to an examination of the experiences of Health Affairs and BUMED in implementing a capitation-based resource allocation model between FY94 and FY 96. Changes to the model or to the capitated formula after 31 October 1996 are not addressed. Nor are the capitation models employed by the Air Force and Army discussed in much detail. To evaluate the impact of a capitation-based resource allocation model at the MTF level, the researcher will conduct personal interviews with the Comptroller of Naval Medical Center, San Diego, California and Naval Hospital, Corpus Christi, Texas.

#### **F. LITERATURE REVIEW AND METHODOLOGY**

This thesis will rely primarily on a deductive approach to the question of how Health Affairs and BUMED's capitation-based resource allocation system has evolved and its impact on resource management at the activity level. Working papers, publications, and memoranda from DoD, Health Affairs, and BUMED were reviewed for areas relating to capitation-based resourcing and managed care. A review of the literature, including studies conducted by professional organizations and journal articles, were also used. This provided background data on practices and policies. Also, key personnel involved in capitation from Health Affairs, BUMED and at the MTF level were interviewed to gain additional insight and perspectives into the current policies.

## **G. DEFINITIONS, ABBREVIATIONS, AND ACRONYMS**

Definitions of certain terms used in the thesis are given as they arise. A list of abbreviations and acronyms is presented after the Table of Contents.

## **H. CHAPTER OUTLINE**

Chapter I provides a general introduction to the concept of a capitation-based resource allocation model, followed by five chapters. Chapter II provides an overview of the managed care in the private sector, the different types of managed care organizations, and various elements of a managed care network. Next, the concept of capitation is defined. Then, the salient characteristics, major advantages and disadvantages, and potential problems of a capitation-based financing system are analyzed.

Chapter III provides an overview of the MHSS direct care system and the TRICARE uniform benefit. Subsequently, the capitation model used by Health Affairs is examined. Chapter IV compares BUMED's capitation model with the model that is used by Health Affairs. It provides an overview of the different information systems available to support the implementation of a capitation-based resource allocation system within the MHSS. The last section in this chapter addresses the "readiness-focused" capitation. Developed by budget programmers from the Medical Finance Division, Office of the Surgeon General (N-931), this is a proposed alternative approach to programming and budgeting DHP resources in the development of POM-98.

Chapter V presents analysis and major findings of the different obstacles in implementing a capitation-based financing system within the MHSS and examines how DoD is confronting these issues. It then addresses the typical incentives available to MTF

commanders under a capitation-based budgeting system. It also examines the impact of capitation on resource managers on the MTF level.

Chapter VI concludes this thesis with a summary, conclusions, and discusses directions for future research.

## **II. CAPITATION BUDGETING IN THE CIVILIAN MANAGED CARE ENVIRONMENT**

Capitation has become an increasingly popular strategy for containing the costs of health care. Before discussing capitation budgeting, a managed care competition framework and its practices must be identified. This chapter will provide a brief review of the civilian managed care concept.

The first section provides a definition of managed care and a description of the different types of managed health care organizations. In addition, this section includes a brief examination of various activities that led to the growth of managed care and highlights the characteristics of the most common forms of managed care.

Subsequent sections will review the literature on the theory of capitation and the incentives and disincentives it creates in the marketplace. They will also address the salient characteristics of capitation and identify the advantages, disadvantages, and common problems of a capitation-based resource allocation system.

### **A. MANAGED HEALTH CARE**

The American health care system operates on a commodity and commerce basis, in a marketplace that does not respond to classic market principles of supply, demand, price, or quality. This system includes unaffordable insurance packages and services characterized by good intentions, overindulgence, and self-interest (Wolford, et al, 1993, p. 7).

In the past two decades, increased demand for improved health care combined with sharply rising costs have made health care a critical economic issue for health care



consumers and suppliers, employers, private health insurers, and public agencies (Hailstones, 1991, p. 242). In the early 1970's, the concept of managed care was introduced as the magic pill to cure the growing health care cost problem. Widespread support for managed health care services was based on the belief that it would benefit all three parties in the health services transaction: providers, payers, and patients (Iglehart, 1992, p. 96).

### **1. Definition**

“Managed Care” is a system of health care delivery that influences the utilization of services, costs of services, and measures performance (Flores, 1987, p. 10). The American Medical Association refers to managed care as a broad and constantly changing array of health plans, which attempt to control the cost and quality of care by coordinating medical and other health-related services (Shouldice, 1991, p. 11).

A simplistic, but useful concept regarding managed care is the continuum. On one end of the continuum is managed indemnity with simple precertification of elective admissions and large case management of catastrophic cases, superimposed on a traditional indemnity insurance plan. Further along the continuum are Preferred Provider Organizations, open panel HMOs (i.e., Independent Practice Associations), and finally closed panel HMOs (i.e., group and staff model). As the system progresses from one end of the continuum to the other, it adds new and greater elements of control and accountability. Consequently, it tends to increase both the complexity and the overhead

required to operate the plan, but the system has a potential to achieve greater potential control of cost and quality (Kongstvedt, 1993, p. 13).

Managed care plans are designed to control the finance and delivery of health services (Shouldice, 1991, p. 16). They also provide financial protection against the burdens of catastrophic illness which precludes most, if not all, of the economic uncertainty resulting from major, unanticipated medical expenses. This protection is not usually included in standard insurance programs; it is only acquired at additional expense by purchasing additional coverage often referred to as "major medical" care (MacLeod, 1993, p. 3). Accordingly, one can conclude that the managed care strategy seeks to improve resource utilization by changing attitudes so that everyone, including the health care providers, pursues or provides cost-effective care.

While there is no single definition of the term "managed care," most authors include the following six features:

- (1) Channeling patient to high-quality, efficient providers;
- (2) Creating reimbursement systems where physicians and hospitals are accountable for the cost and quality of medical services;
- (3) Monitoring and analyzing medical practice patterns;
- (4) Establishing quality assurance programs;
- (5) Designating Primary Care Physicians (PCPs) and catastrophic case managers;
- (6) Installing rigorous utilization management components (Luft, 1990, p. 5).

## **2. Growth and Development**

According to Kongstvedt, managed medical care is strictly an outgrowth of the private sector, dating back some 60 years (Kongstvedt, 1993, p. 3). The emergence of managed care is due largely to a realization by health care strategists that the American culture does not allow for effective policing of the use of health care services, either by health care consumers as a group, or by health care providers (Dufresne, 1995, p. 1). The major objectives of these efforts (both by private and public payers who are responsible for financing health care benefits programs and by individual consumers) are containing health care expenditures and ensuring appropriate utilization and high-quality care.

In the late 1960's, accelerating health care costs and the trend toward high technology medicine fostered a radical change in financing health care. To combat increasing health care costs, the federal government in 1965 promoted the "corporatization" of health care systems, both in investor-owned and not-for-profit companies, through the enactment of Medicare and Medicaid legislation (MacLeod, 1995, p. 4). Though it was not readily recognized, this new law laid the groundwork for significant controls (diagnosis-related groups, commonly known as DRGs and prospective pricing ) on the financing and payment for medical care services later to be imposed on physicians, hospitals and patients.

Further federal involvement in the corporatization of medical care resulted in the passage of the HMO Act of 1973. Its ensuing amendments allowed managed medical care plans to increase in numbers and to expand their enrollment to beneficiaries of

government financed health care programs, such as Medicare and Medicaid among others (Macleod, 1995, p. 5). Also, in the 1970s, so-called prepaid group and solo practice plans were recast into a popular marketable entity called a "Health Maintenance Organization" (HMO). The development of the Preferred Provider Organization (PPO) occurred later in the same decade (Kongstvedt, 1993, p. 5).

Both prepaid group and individual practice plans were the opening wedges for a new kind of health care delivery in the United States. In these programs, physicians shared the risk of financing health care for an enrolled population and had a choice between billing and collecting a fee-for-service from the patient or having the HMO pay the physician directly out of a prepaid per capita payment (capitation) for the health care services. These models led to widespread distribution of managed care plans in which HMOS assumed responsibility for providing a comprehensive range of health services to voluntarily enrolled populations at a fixed annual premium.

The evolution of these pioneer prepaid group and individual practice plans in the private sector was one of the most extraordinary developments in the history of medical care organization in the world (Kongstvedt, 1993, p. 6). Prepaid plans went on to serve as a template for financing and organizing health care services for the American people. At the very least, the development of HMOs and PPOs ushered in a new era of corporate influence into the practice of medicine (Shouldice, 1993, p. 18).

A major factor in the overall success of HMOs was the willingness of physicians to accept financial risk in providing health and medical care services to groups of

subscribers. If HMO physicians incurred expenses exceeding budgeted costs, part or the entire shortfall would have to be absorbed by the physicians. On the other hand, physicians could share any excess in revenues over expenditures. In addition, enrollees achieved considerable savings in health insurance premiums mainly by reduction in the number of unnecessary hospital admissions and length of hospital stays.

Then, in the early 1980s, as health care spending continued to escalate, the federal and state governments pursued alternative measures aimed at reducing hospital expenditures by direct utilization controls and reimbursement limitations. Government-mandated payments by diagnosis (Medicare) and payments per diem (Medi-Cal) were enacted. These efforts went through several developmental stages: first, benefit packages were redesigned to encourage cost-effective use of health care services; then the cost and utilization of services were closely monitored; and finally, managed care alternatives were used (Schroer, 1987, p. 3).

In the private sector, there has been a dramatic increase in both horizontal and vertical integration of hospital systems. Some 40 percent of the nation's community hospitals are operated as multi-hospital systems. In addition, both not-for-profit and investor-owned companies are involved in a variety of health care markets, including long-term care, wellness programs and HMOs (Kongstvedt, 1993, p. 7). Employers have assumed more of the risk through self-insuring benefits programs and by increasing their direct links to providers through negotiated direct contracts (Schroer, 1987, p. 4).

The significant shift toward managed care during the 1980s by the government and private sector was designed to limit health care cost increases. This was accomplished primarily by shifting expenses to employees through higher employee premium contributions, higher deductibles and coinsurance arrangements. These efforts to combine the delivery and financing of health care services often resulted in decreased hospital admission, decreased average lengths of stay, and stabilized use of ancillary services.

In recent years, the trend toward cost-shifting has slackened, largely because organizations sense that they have reached the limit of the expense which can be reasonably transferred to employees (Dufresne, 1995, p. 1). Most managed health care plans now pay more attention to price and patient satisfaction. Some managed health care plans now permit payment to nonparticipating physicians at the point of service. Under this agreement, the patient is responsible (a) in IPAs or PPOs for charges by nonparticipating physicians beyond that allowed by a fee schedule or (b) in a group or staff model HMO for direct payment to nonparticipants until a substantial deductible is met (Kongstvedt, 1993, p. 12).

According to the American Hospital Association, the present form of managed care delivery system is an organized body of health services and financial mechanisms. They operate in an integrated and systematic fashion to manage and provide the right wellness, medical, and related services at the right place and time (Woolford, et al, 1995, p. 13). In essence, the system's organizational goal is to improve the long-term health

status of the community. Moreover, the ideal organization is designed to function as a seamless system of services (Wallack, 1995, p. 27).

In addition, as pointed out by Kolb & Horowitz, the ideal managed care organization provides continuous improvement in delivery processes, avoidance of medical duplication, and containment of costs. Incentives for the present managed care organization exist to optimize the system as compared to optimizing the individual parts (Kolb & Horowitz, 1995, p. 67).

### **3. A Continuum of Models**

Managed care programs are identified most often as Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs), or any of a number of hybrids among these products. The managed care industry has spawned a large number of acronyms to describe its distinctive organizations; many people have described these acronyms as a confusing alphabet soup of initials. Nevertheless, knowledge of a few key acronyms makes an understanding of the managed care environment easier. For a complete description of other hybrid forms of HMOs, refer to Appendix A. Following is a summary of the most common forms of managed care:

#### **a. Health Maintenance Organizations (HMOs)**

HMOs are where the concept of a primary care physician, or gatekeeper firmly took hold. They typically take three forms: (1) the staff model; (2) The group model; and (3) the independent organization/association (IPO/IPA).

In the staff model, the HMO operates with the facility, and the physicians are HMO employees who have no private practice and are usually paid a salary. In the group model, the HMO contracts with a freestanding medical group of physicians who may continue to treat their private fee-for-service patients. The medical group is usually compensated on a capitation basis, with individual physicians' compensation determined by the medical group. Under an IPO/IPA, doctors operate on a fee-reduced, fee-for-service basis or on a per capita basis. The HMO group with a legal entity represents individual physicians. The legal entity, in turn, contracts with the individual physicians. The HMO usually pays the IPA/IPO on a capitation basis, and the IPA/IPO pays its physician members (Rahn, 1995, p. 7).

In all cases, the physicians contract independently with the network. Regardless of the HMO use, the main aspect is that one physician is given primary responsibility for an individual's care throughout the entire system.

#### **b. Preferred Provider Organizations (PPOs)**

The PPO first appeared in the medical marketplace in the late 1970s. PPOs are included under the umbrella of managed care, but they do not offer a higher level of care management because the gatekeeper concept is not present. PPOs bring together networks of care providers to offer discounted fees for their services to an employer or group of employers in exchange for a higher volume of business (Kongstvedt, 1993, p. 14). One advantage of this managed care model is usually a 15 to



20 percent discount from what competitors charge to enrollees who agree to use the services of selected sets of physicians and hospitals.

Under a PPO structure, no one directs the individual through the system, and patients are free to move at will from specialist to specialist or provider to provider. Thus, PPOs do not overcome the basic problem of health care users who make unsound judgments for themselves about the need for tests, visits to specialists, hospitalization, and so on. When individuals move from one physician to another in an uncoordinated or unmanaged fashion, the likelihood is greater that each physician will do his or her own testing, even if that testing has already been performed elsewhere, thus adding significant dollars to the cost of any health care system. However, unlike HMOs, PPOs reimburse the patient for covered services obtained from any provider at the discounted rate set for preferred providers. The patient then has to pay out-of-pocket the balance between the scheduled fee and the billed amount.

### **c. Point-of-service (POS) plans**

POS plans represent a relatively new type of managed care program. The POS incorporates the features of a tightly managed HMO with those of a fee-for-service indemnity program. The POS concept aims to retain freedom of choice for patients, which clearly has surfaced as a key issue for employers, while still allowing employers to maintain quality coverage and manage costs. This is accomplished with an economic incentive that encourages employees through lower out-of-pocket costs to obtain care through the core HMO-style network (Kongstvedt, 1993, p. 8). At the same time,

employees are not restricted, administratively or through excessive financial penalties, from going “out of network” to obtain care from the doctor or facility of their choice if they feel uncomfortable with any aspect of the care provided through the core network (Dufresne, 1995, p. 6).

This form of health benefit coverage represents an attractive managed care option for many employers and their covered employees, particularly when the employer is using POS as a consolidation of existing indemnity coverage and multiple HMOs in the group. However, a successful implementation of a POS plan hinges on educating and assuring employees and their family members that most of their needs can be satisfied effectively through the “in-network” or HMO side of the plan. Traditional HMOs may offer similar benefit options through an out-of-plan benefit rider or POS option.

#### **d. Hybrid of Health Care Alternatives**

Appendix A provides a detailed description of hybrid forms of managed care. These forms of managed care contain a hybrid of features characteristic of traditional health care plan designs. Options at the plan designer's disposal include freedom of choice (characteristic of traditional indemnity plans), negotiated discounts (characteristic of PPOs), and a focus on wellness, utilization reviews and the gatekeeper concept (characteristic of HMOs). The degree to which managed care plan designers mix and match these features will determine the extent to which costs and utilization can be managed through the new hybrid plan.

A POS plan represents a “middle of the road” hybrid because it seeks to manage costs while giving users a sense that their choices for care are not being restricted. These hybrid health care alternative plans have been designed to offer economic incentives to users to encourage them to stay in the network. At the same time, participants have an opportunity to make their own choices about where to procure care, with the understanding that there may be additional costs when that choice is exercised.

#### **4. Elements of a Managed Care Network**

As Figure 1 shows, development of an effective health care network involves the balancing of four major factors: access to care; quality of services and outcomes; utilization of management; and risk sharing.



**Figure 1: Four Key Elements of a Managed Care Network<sup>1</sup>**

---

<sup>1</sup>Source: Dufresne, M. R., Evaluating Managed Care Network, p.10, 1995.

#### **a. Access to Care**

According to Dufresne, a key objective when considering access to care should not be to provide a huge selection of physicians. Rather, the emphasis should be on constructing a network of qualified physicians distributed across a reasonable geographic area (Dufresne, 1995, p. 10).

“Access” to most Americans means total freedom to go anywhere in the marketplace, and a managed care network is often viewed as a major restriction of this freedom (Hailstones, 1991, p. 242). As noted by Shouldice, one way to alleviate the user's perceived restriction in a managed health care network is to ensure an appropriate mix of provider types and a sufficient selection among primary care practices that are “open” and available to accept new patients (Shouldice, 1991, p. 114). Nothing can be more detrimental and frustrating to a consumer newly accepted into a network than discovering in the directory that most physician listings are stamped “practice not available to new patients.”

Another important aspect of access, as pointed out by Dufresne, is requiring the network to meet specified standards for delivery of service. The primary care physician should provide 24-hour coverage, seven days a week, and sufficient procedures should be in place for obtaining backup service or quick response to messages when the primary care doctor cannot be reached directly (Dufresne, 1995, p. 12).

### **b. Quality Services and Outcomes**

Dowling defines quality as the provider's ability to successfully correct, cure or otherwise improve the medical condition that has initiated the need for care. In his description of quality, he admits that it can be highly subjective (Dowling 1990, p. 61). For example, some people feel that the most important aspect of a provider's quality is bedside manner or personality. Others look for speed in which a problem is attended to and corrected.

Though it is difficult to quantify the quality of medical care, it is critical that a network be structured so that "report cards" can be issued consistently for the network as a whole and for the individual physicians, hospitals and other facilities within the network (Eastaugh, 1992, p. 85). Also, continued efforts must be made regarding the measurements needed to monitor a network's effectiveness properly, and the steps needed to obtain those measurements accurately and consistently (Dufresne, 1995, p. 12).

### **c. Utilization Management**

A network should have an administrative arm that actively maintains, monitors and controls utilization practices and procedures. Though physicians should have the freedom to deliver quality care, it is also important that checkpoints be in place to guard against unnecessary hospitalizations, extended stays and other excesses (Dufresne, 1995, p. 14).

According to Kongstvedt, another key focus to managing utilization is to ensure that excessive administrative overhead at provider locations or for the network as

a whole, does not negate the lower cost levels realized through alternative procedures (Kongstvedt, 1991, p. 115). Otherwise, costs will merely be shifted from one side of the equation to the other.

#### **d. Risk-sharing**

The objective of risk-sharing is to share risks equally among all the parties involved in a managed care approach: the provider, patients, and the employer which is supplying a large portion of the benefit coverage (Eastaugh, 1992, p. 85). Much of this division of risk is accomplished through plan design and the various weights assigned to deductibles, copayments and other payment features (Kongstvedt, 1991, p. 126).

Risk also comes into play when a network is being established and providers are being selected. Providers must be brought into the network with the understanding that they will be rewarded for operating within controlled limits of utilization and penalized if they failed to meet established standards (Starr, 1995, p. 30). As Starr suggested, the risk-sharing aspects of managed care often serve as an incentive plan for the physician. Providers may receive reimbursements through a discounted fee-for-service arrangement or a per capita rate for the year, depending on how contracts are negotiated (p. 32).

Managed care is moving providers to an arena in which they can be assured of receiving a base level of income and can also receive an opportunity to supplement their income through incentive programs in return for providing quality care in a low-cost environment. This arrangement puts a premium on the physician making

proper, cost-efficient judgments when determining the type of care required (Rosentein, 1993, p. 179).

For example, if a primary care physician is receiving \$100 a year per patient, \$80 per patient would be received up front or through an installment (capitation) payment. The physician then would be responsible for providing care for each patient on an as-needed basis, with the knowledge that his or her utilization performance would be reviewed at year-end. If the physician is successful in keeping patients healthy while providing most of the care without resorting to referrals, much of the basic fee and subsequent withhold payments would be returned as net profit. If the physician unnecessarily refers patient to specialists for every situation and compounds the cost of care by referring those patients to out-of-network specialists, the review process would likely deem it necessary to: (1) eliminate or substantially reduce the withhold payment; (2) institute counseling or educational processes with the physicians; or (3) remove the physician from the network in cases where performance continues to lag below established standards (Jaklevic, 1994, p. 24).

## **5. Summary**

The recent growth and development of managed medical care involving ambulatory medical care, hospitalization, and health insurance has created a variety of complex organizations requiring the finest management skills available. Managed care in its existing and likely emulated formats means many things, including the micro-managing of consumer choice, consumer selection of providers, and providers' use of

procedures, diagnosis and treatment. Coupled with this new set of micro-management tools are a myriad of financial strategies and incentives presumed to alter the behavior of physicians, hospitals, and other providers.

Health care providers must be structured and managed in a way that recognizes provider accountability and rewards efficiency, quality, and value. If this restructuring is to happen, the distance between buyers and providers must be shortened to make providers more direct sellers with nothing between them and the buyer to alter incentives for efficiency (Rahn, 1995, p. 48).

Currently, managed care organizations in the U.S. continue to grapple with the process of extensive restructuring and reengineering of the health care delivery system. As mentioned in the beginning of this chapter, this change is fueled primarily by employers who need to cut yearly double digit increases in expenditures for employee health care benefits. This reform movement has been underway for over a decade now. It has manifested itself through HMOs and other types of "managed care" health care delivery plans (Bodenheimer & Grumbach, 1995, p. 274). However, the way providers are being compensated for services under these plans is changing rapidly. Instead of the traditional fee-for-service, where providers are paid a fee for each service rendered, payers are assigning patients to providers and pre-paying them a flat monthly fee for providing care. This practice is called "capitation."



## **B. CAPITATION**

A capitation-based resource allocation system is increasingly advocated as a budgeting strategy to consolidate resources, develop services, focus responsibility, and manage care appropriately. This depiction of capitation budgeting will be the foundation for discussing capitation in both the private sector and the Military Health care Services System (MHSS).

### **1. Definition**

Basically, “capitation” can be defined as a prospective (health care) reimbursement process, in which prepayment on a per capita, fixed-fee basis is employed without regard to utilization (Enthoven, 1993, p. 6). As described earlier, capitation is a payment mechanism in which health care providers are paid a fixed fee per month per enrolled member to cover comprehensive services over a period of time. Providers agree to provide services for this fixed, predetermined payment regardless of how many times the member uses the service (Halvorson, 1993, p. 15).

Also, capitation establishes certain benefits, risks, incentives, and innovations, as well as different rate setting techniques to determine the per capita rate (Aiken, 1989, p. 8). Under this definition, capitation has three crucial elements:

- (1) Care is prepaid with a predetermined, agreed-upon price, and does not vary according to the value or intensity of services;
- (2) The payment is tied to specific capitated patients, typically through some type of an enrollment system; and
- (3) The provider bears full financial risk if expenditures exceed payments. (p. 9)

Combined, these elements give the provider a strong incentive to manage care wisely since he keeps part, if not all, of the savings when the medical costs are within the capitated payment (Schroer, 1987, p. 127).

## **2. Objectives and Theory**

In the literature, there is a general agreement about the objectives of capitation-based budgeting. Without exception, cost containment is reported as the major goal. The success of HMOs in achieving this objective as compared to traditional delivery systems is well documented. However, according to Cave, cost containment does not imply complete cessation of cost growth. Rather, the reference is to the achievement of operational efficiencies that will ensure organizational health care costs do not rise at a rate faster than that dictated by the growth in the enrolled (or catchment) population and the economy (Cave, 1994, p. 15). In the macro sense, we mean that health care costs should not exceed some target portion of the Gross Domestic Product (GDP).

How is the objective of cost containment achieved? First, capitation addresses the consumption of all health care resources. This implies that in order to achieve the stated objective, all resources must be considered in the capitation process and separate, isolated budgets cannot be permitted (Kay, 1990, p. 90).

Second, the mixing of resources to optimize their use implies that cost-effective trade-offs (for example capital-labor substitution) are employed for the most efficient and effective achievement of the goals of the organization, given extant resource constraints.

Total cost management should be the overriding goal; consequently, the days of profit centers are probably numbered.

Third, "local optimization" infers that "cost-effective trade-offs" will be accomplished at the operational or provider level (Kay, 1992, p. 92). Therefore, capitation is a decentralized approach to resource allocation and reinforces the notion that physicians act as the central decision-makers concerning the delivery of hospital care.

### **3. Characteristics**

Since a capitation-based financing system is subject to a variety of diverse applications, no attempt to identify features peculiar to every conceivable health care setting or method of employment will be attempted in this paper; only those characteristics of a general nature will be examined. As noted by Anthony and Herzlinger in their discussion of non-profit organizations, the effect of characteristics on the overall process will vary in degree; therefore they will more appropriately represent tendencies rather than pervasive, omnipresent characteristics (Anthony & Herzlinger, 1990, p. 13).

As mentioned earlier, capitation is a payment mechanism in which health care providers are paid a fixed fee per month per enrolled member to cover comprehensive services over a period of time. Providers agree to provide services for this fixed predetermined payment regardless of how many times the member uses the service (Halvorson, 1993, p. 15). To fully understand if capitation budgeting will provide the incentives for cost-effective care in the Military Health Services System (MHSS), certain

characteristics, such as benefits, risks, incentives, and innovations, as well as different rate setting techniques to determine the per capita rate must be examined.

**a. Benefits**

A capitation payment arrangement can be an effective means of controlling health care costs because it allows both the insurer and the employer to predict costs for health care services more accurately. Recognizing the economic and strategic implications of better managing costly components of health care, financial managers in hospitals and HMOs seek to adopt a capitated payments mechanism.

According to Feldstein, the following are typical benefits of a capitated system:

- (1) Incentives for hospital efficiency
- (2) Less duplication of services
- (3) Reduced cost of a medical treatment
- (4) Increased physician productivity
- (5) Incentive for preventive care and health education
- (6) Innovation in health care delivery
- (7) Enhanced relationships among provider organizations. (Feldstein, 1988, 21)

**b. Risk Sharing**

“Risk” is defined as the expected value of the distribution of per capita costs of efficiently-provided preventive, diagnostic, and therapeutic health care services delivered to a defined group of enrollees for a specific future period (Hornbrook and Goodman, 1991, p. 95). Risk also includes the opportunity for the provider to realize

profits by keeping the medical costs below the capitated payments. Thus, risk creates a financial stake for the health care provider in the health plan's operation because their compensation is based, to some degree, on their ability to hold services to an appropriate level and to economize on more expensive services (Shouldice, 1991, p. 213).

A review of the literature on capitation suggests that managed care organizations and providers with capitation experience have used a variety of mechanisms for distributing financial risk. How much of the plan providers are allocated ranges on a continuum from full financial risk for all enrolled patients, to a mix of risk sharing for different services, to no risk (which is essentially cost-based reimbursement). According to Volpp, in a capitated model, the providers do not get paid to provide care; they get paid to assume the risk to provide care (Volpp, 1993, p. 8).

### **c. Incentives**

In this discussion, “incentive” is defined as the means to motivate efficient hospital/health care management. Incentives also encourage physicians to decrease hospital utilization, use resources judiciously, and emphasize preventive health services (Shouldice, 1991, p. 100). Capitation offers no incentive to over-provide expensive medical care; instead it provides strong incentives toward preventive care (Kongstvedt, 1989, p. 91).

**(1) Positive Incentives.** According to Bloom, proponents of capitation claim that it introduces positive incentives into health care delivery systems. First, payment is generally made in advance, which allows delivery systems to engage in

long-term planning. Second, capitation consolidates funding resources, which may increase the resources available to a delivery system and increase the flexibility of providers in designing the service delivery system. Third, capitated payments provide incentives to treat high-risk, severely ill or otherwise difficult patients by tying payments to specific targeted groups. Fourth, capitation encourages delivery of cost-effective treatment, because care has to be provided with a fixed amount of money. Thus capitation is often used as a mechanism to shift the bulk of treatment provided from inpatient, hospital-based care to outpatient, community based care. Finally, capitation encourages providers to coordinate care (Bloom, 1994, p. 681).

**(2) Negative Incentives.** Unfortunately, capitation also introduces incentives that can result in unwanted outcomes that may have negative effects if mechanisms to prevent them are not introduced. According to Bloom, one negative incentive is that, if clients are given their choice of providers, the providers may respond by attempting to attract clients who are not high-service users to their plans, in an effort to exclude high-cost clients -- a process known as "skimming." Second, providers may shift costs to other sectors of the health care delivery system or to programs that are not included in the capitated system. Third, providers may substitute less-qualified professional staff (who also are less costly) to provide care to patients enrolled in the capitated system. Finally, providers may under-serve patients in order to minimize expenditures (Bloom, 1994, p. 683).

#### **d. Innovations**

**(1) Information Technology.** According to Bergman, “the institution's success in moving to a capitated environment depends on information technology success” (Bergman, 1994, p. 35). Since the primary care physician should be responsible for the total management of a patient's care, the medical group needs to have accurate information on the at-risk population. Capitated members need to be identified along with associated revenues and costs and summarized by the primary care physician for accurate profiling. Specialty encounters should be captured as well to profile the network specialists (Zaharias, 1995, p.6).

Due to some innovative successes in information technology, health care managers and providers have readily available data needed for a capitation-based financing system. “Leveraging data to more cost-effectively treat patients is today's new innovation” (Hamilton, 1995, p. 184). Hamilton states that providers are aiming to cut cost and improve care. The key is better information systems. These information systems include: eligibility and benefits determination, encounter processing, referral management, claims processing, case management, physician compensation, insurance management functions, outcomes reporting, performance management, and patient level cost accounting (Hamilton, 1995, p. 187).

However, health information systems now in place may not be as robust or as well integrated as they should be. The ideal information system should provide readily available and accurate reports tailored to meet hospital administrators and

providers' needs. It is not enough to simply gather data; the system must be able to feed back the data to the specific end-user (physicians, department managers, nurse, administrators, etc.) And it should provide them with positive alternatives for care.

**(2) Incentive Pay.** Incentive pay is by far the most popular mechanism to reward and motivate providers for preserving an organization's capitated payment (Montague, 1994, p. 20). Because capitated providers are organized in such various ways, it is not surprising that physician compensation mechanisms in these entities are incredibly varied as well. Capitated providers pay physicians using every method, from straight salaries to traditional fee-for-service payments (Montague, 1994, p. 21).

A capitated provider may also divide an overall capitated payment based on the equivalent fee-for-service billing of its physicians, or it may even contract to make fee-for-service payments to some outside physicians for care that cannot be provided in-house (Stearns, Wolfe & Kindig, 1995, p. 416). So, physicians may receive part of their compensation as salary, part as an incentive payment, and part from a risk pool based on their billings, as well as other payments from other plans. According to Ogden, the differing compensation methods sometimes cause friction between physicians, which can be further exacerbated as longstanding informally referred patients are replaced by formal, in-house capitated patients (Ogden, 1991, p. 30).

At Kaiser-Permanente Hospitals, they are experimenting in some areas with a merit pay system based on quality service, utilization, collegiality and other



factors (Cerne, 1994, p. 21). Another example comes from the Friendly Hills Medical Group. They established a bonus pool to reward the entire group, rather than individual departments, if the overall cost falls below the capitated target (Cerne, 1994, p. 23).

**(3) Patient Access System.** Patients want to be ensured access to necessary services within the medical care system, particularly to a member of their primary care team. This may be accomplished through the use of “personal health management” or “decision support” (Jaklevic 1995, p. 19). One initiative some hospitals are employing is the use of telephone consultation. According to Jaklevic, just as the telephone was used to bring patients into the hospital, it is now being employed to keep patients at home. The goal is to allow patients to call trained and skilled nurses about health care treatments, procedures, health education, and other questions concerning their health status. These networks also offer callers over 430 audio tapes on various health topics.

According to Zaharias, a patient access system may also be accomplished through the development of:

- Scheduling and staffing mix strategies that incorporate physician extenders and nursing triage/telephone consultation;
- Paneling systems that assist members in selecting an appropriate primary care physician and support the patient/physician relationship. (Zaharias, 1995, p. 6)

Although appointment availability is a critical component of access, it is also important that:

- The medical center be conveniently located and open during favorable hours and days;
- Medical care is accessible when the medical center is closed;
- The member has telephone access to the physician or a team member.  
(Zaharias, 1995, p. 8)

The activities previously mentioned should be tracked and monitored closely to ensure that patients have access to needed medical services. Access also entails providing a system that allows the users to get help in understanding the network process through written and oral communication both before and after care is provided. Consumers need to be assured that if they have a question, there is a customer service number they can call. Furthermore, they need to be assured that this number can always be reached and that answers can be obtained without having to hold for 10 or 15 minutes. Finally, they must feel confident that the responses they receive will be correct and consistent.

#### **e. Rate Setting Methodology**

The ability to develop and use a base capitation rate which can be adjusted, as needed, for changes in the demographic makeup of the service population is one of the salient characteristics of capitation budgeting. According to Dowling, the capitation rate setting process is an ideal way in which to systematically influence the resource consumption patterns of both facilities and individual health care managers and providers. In order to achieve the potential this process suggests, it is necessary to

develop an *objective, equitable, and efficient* adjustment mechanism (to be used) in conjunction with the basic rate setting methodology to allocate the always insufficient total or central budget among the competing regions (facilities) (Dowling, 1991, p. 23).

There are basically two premium rating methodologies for determining capitated rates: community rating and experience rating.

**(1) Community Rating.** In 1981, the federal government passed legislation which expanded the definition of community rating and introduced the community rating class (CRC) system. According to Cerne, there are three steps involved in a community rating class:

- (1) Classify all HMO members into classes actuarially derived or based on factors that can predict differences in utilization of services;
- (2) Determine projected cost of each class, and calculate the revenue requirements for providing services to members of each class.
- (3) Ascertain the composite premium rate for all individuals in a class or group of similar size. (Cerne, 1994, p. 30)

In defining community rated classes, the government allows four factors: age, sex, marital status and type of industry. CRC presupposes the availability of data to develop cost assumptions for each class. This system can be complicated and organizations desiring to implement this system are encouraged to seek professional assistance from a qualified person or firm with expertise in this area.

**(2) Experience Rating.** Insurance companies and most Blue Cross and Blue Shield organizations use “Experience Rating” as the principal method for

determining rates (Kongstvedt, 1989, p. 43). This system takes into account previous experience gained by the insurer or health organization regarding the cost needed to provide care for its members. Rates are adjusted to this factor. The main difference between these two systems is that where the CRC determines rates prospectively, experience rating determines them retrospectively.

### **C. PRINCIPAL ADVANTAGES**

The obvious advantage of a capitation-based resource allocation system is cost control, curbing the escalating dollars spent on health care in the United States.

Capitation creates incentives for health care providers to contain costs. Health care providers increase their profits by practicing cost-effective medicine and coordinating and eliminating redundancies in services (Shouldice, 1991, p. 127). A capitation-based financing model also creates a predictable cash flow, eliminates the standard billing process and circumvents potential lengthy delays in claims payments.

### **D. PRINCIPAL DISADVANTAGES**

The primary disadvantage of a capitation-based resource allocation system is that the provider assumes full risk when the treatment required by a capitated patient exceeds the capitation amount. For some health care providers, this risk far outweighs the advantages (Shouldice, 1991, p. 129). A capitation-based budgeting financing model also places virtually all of the responsibility and rewards for effective management in the hands of the provider, who may not want all of the responsibility (Stearns, et al, 1992, p. 423). Further, it reduces choice for patients.

## **E. POTENTIAL PROBLEMS**

Capitation theoretically rewards providers for not providing services. Under this premise, capitation-based budgeting could compel health care providers to become restrictive gatekeepers. Physicians will continually be forced into a series of moral stress tests, knowing that the consequences of doing good for a patient and ensuring quality care will either reduce their profits or limit the resources available to other patients. The physician-patient relationship could be undermined if patients feel that they cannot trust their physicians to act in their best interest (Shouldice, 1991, p. 131).

Although physicians have the incentive to withhold treatment from patients and undermine quality care for financial gains under capitation-based financing systems, there are arguments to explain why this is not plausible. First, physicians as licensed practitioners are worried about their reputation as professionals. Second, there is incentive not to sacrifice quality of care because of the competition for subscribers among health care organizations in the medical field.

Capitated managed care plans also instill quality programs. These programs are designed to determine a quality of care baseline and to develop and maintain programs to keep it at an acceptable level. They also institute improvements when the opportunity arises or the care does not meet standards (Slee, 1992, p. 120).

Another common problem with capitation involves chance, such as when there are too few members in an enrolled base to make up for bad luck. Physicians with fewer than 100 members may find that the dice simply may roll against them, and they will

have members who need complex or specialized treatment, such as bypass surgery, chemotherapy, AIDS treatment, or a host of other expensive medical problems (Kongstvedt, 1993, p. 60). As suggested by Kongstvedt, one way to alleviate this problem is to spread the risk for expensive cases through common risk-sharing pools for referral and institutional expenses and to provide stop-loss or threshold protection for expensive cases (p. 61).

One last issue, although it is not a problem per se, should be raised. In a capitated system, savings from decreased utilization may not result in direct savings to the plan. In other words, if primary care services undergo a reduction in utilization, the capitation payments will not go down, just as they will not go up when there is increased utilization. In essence, if a system uses capitation extensively for primary care, specialty care, and hospitalization, there may be no reduction in expenses even if controls result in a dramatic lowering of utilization rates. On the other hand, such reductions will result in less pressure to increase capitation rates the next year.

## **F. SUMMARY**

Managed care programs in the private sector are identified most often as Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs), or any hybrid among these products. The widespread support for managed care programs, especially HMOs, reflects the belief that all parties in health services transactions -- providers, payers, and patients -- will benefit, through the provision of quality, cost-efficient care. This chapter addressed the private sector's experience with capitation

budgeting under managed care, particularly the incentives to the various players and regarding quality of care. The conclusion is that the introduction of a capitation-based resource allocation system in the private sector does provide the incentives for the delivery of quality, cost-effective care.

The following chapter will address managed care and capitation-based budgeting in the Military Health Services System (MHSS). It will also provide background on the military health care system, its structure and its beneficiaries.

### **III. MANAGED CARE IN THE MILITARY HEALTH SERVICES SYSTEM**

In order to fully understand the positive and negative effects capitation can have on military medicine, the military health service system (MHSS) must first be explained. The first section of this chapter will provide a conceptual framework of the military medical structure. The remaining sections will briefly describe the events that led to the implementation of a capitation-based resource allocation model in DoD and will discuss Health Affairs' capitation-based financing model.

#### **A. THE MILITARY HEALTH SERVICES SYSTEM (MHSS)**

The MHSS offers health care benefits to about nine million people and costs over \$15 billion annually. In 1995, the medical budget represented about six percent of the total defense budget. Although the primary mission of the MHSS is to maintain the health of approximately 1.7 million active-duty service personnel and to be prepared to deliver health care during times of war, it also provides services to some 6.6 million non-active-duty beneficiaries. Health care services are delivered through an extensive system of military treatment facilities (MTFs) located throughout the world and through an insurance-like program called the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) (GAO, March 1995).

The Assistant Secretary of Defense (Health Affairs) (ASD(HA)) is responsible for the planning, policy development, and oversight of the MHSS. These responsibilities include developing guidance on Department of Defense (DoD) health and plan programs; ensuring that medical programs and systems meet operational readiness requirements; establishing requirements and standards for DoD medical and acquisition programs;



programming and budgeting MHSS resources and funds, except personnel and construction funds; and administering CHAMPUS (GAO, March 1995).

The MHSS is headed by the ASD (HA), however, each Service has its own medical department. Each medical department is headed by its own surgeon general, and prepares a medical program budget for Health Affairs, develops Service-specific programs, and operates the Services' MTFs. Each Service also recruits and funds its own medical personnel to administer the medical programs and provide health care services.

Funding for the MHSS is provided through a single defense medical appropriations account, the Defense Health Program (DHP) Appropriation. The DHP provides the necessary resources for the delivery of medical and dental services to the active forces and other eligible beneficiaries. It provides funds for operations and maintenance, procurement, medical command headquarters, specialized services for training of medical personnel, occupational and industrial health care, and CHAMPUS. The DHP also provides funding for the acquisition and expense of capital equipment in support of military MTFs, training, facilities, and programs, but does not include funds for military construction (funded through a separate account) and active and reserve medical personnel. Active duty medical pay is included in the DHP Program Objective Memorandum (POM), but is transferred to the Military Departments for budget execution (OASD/HA, March 1995).

Health Affairs directs the distribution of funds to the Services, which then allocates the funds to their MTFs and other activities. Figure 2 depicts the flow of funds

from the DHP to Health Affairs, the Services' Medical Departments, and ultimately to the individual MTFs and other medical activities.

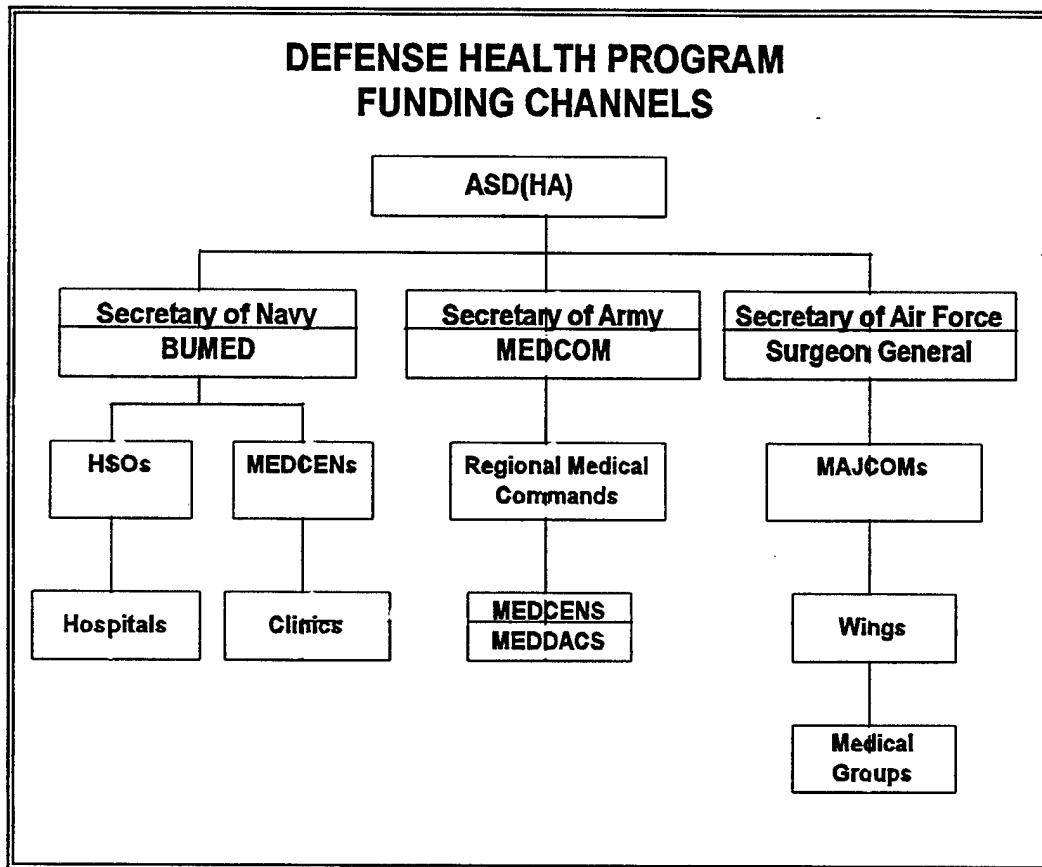


Figure 2: Flow of Funds from DHP<sup>2</sup>

### 1. The Direct Care System

Active duty personnel and other eligible beneficiaries receive their health care services directly through an extensive system of DoD operated hospitals and clinics, staffed by civilian and military medical personnel. This delivery system has become known as the direct care system. Three-fourths of all health care services are provided

---

<sup>2</sup>Source: Colonel D. Braendel, Organization for TRICARE, November 1996.

through the direct care system, while one-fourth is provided through CHAMPUS. Active duty personnel and their family members make up about one-half of the eligible beneficiary population; the other half consists of retirees, their family members, and survivors (OASD/HA, March 1995).

The combined MTF capabilities of all three Services include over 600 MTFs, composed of 127 military hospitals and over 500 clinics. The MTFs employ about 48,000 civilians, along with 135,000 active duty military, and about 91,000 personnel in the Selected Reserves and National Guard assigned to medical missions (GAO, March 1995).

There are three categories of MTFs: (1) Medical centers, which are large tertiary care facilities, ranging in size from about 200 to 1,000 beds, and offering both inpatient and outpatient care; (2) Community hospitals, typically with fewer than 200 beds, which offer inpatient and outpatient care but usually handle less complex cases than the medical centers; (3) Clinics, which are generally small facilities offering a limited range of primary care services and usually only on an outpatient basis (GAO, March 1995).

Although fewer in number, the medical centers provide a larger portion of direct care. In 1992, about 57 percent of the inpatient workload and about 30 percent of the outpatient workload in the direct care system was handled in medical centers. Community hospitals handled about 43 percent of the direct care inpatient workload and about 60 percent of the outpatient workload. The remaining outpatient care was delivered in clinics (GAO, March 1995).

## **2. The Civilian Health and Medical Program of the Uniformed Services (CHAMPUS)**

CHAMPUS is a program of medical benefits provided by the U.S. government under public law. Legislative actions in 1956 and 1966<sup>3</sup> gave family members of active duty personnel, retirees and their family members and survivors access to care in MTFs on a space available basis. When health care services are not available in MTFs to non-active-duty beneficiaries, these beneficiaries can receive health care from the private sector through CHAMPUS. Active duty members are not eligible to receive health care under the CHAMPUS Program, but they receive their health care services through the direct care system.

CHAMPUS is automatically available to the families of active-duty personnel, retirees and their family members and survivors under the age of 65. At age 65, beneficiaries are no longer eligible for CHAMPUS because they become eligible for Medicare. However, Medicare eligible beneficiaries may still receive care through the direct care system on a space-available basis.

CHAMPUS is comparable to private sector indemnity (fee-for-service) health benefit plans, requiring beneficiaries to pay for care up to an annual deductible amount, and then pay a portion of the remaining costs. However, beneficiaries are not required to pay premiums for CHAMPUS. The amount of the deductible and copayment varies by type and source of health care and by different beneficiary groups, ranging from \$50 to \$600 for the deductible and 50 percent for cost-share of CHAMPUS maximum allowable

---

<sup>3</sup>Dependents' Medical Care Act (P.L. 84-569) in 1956, and the Military Medical Benefits Amendments of 1966 (P.L. 89-614).

charge (CMAC) when TRICARE Prime members opts for POS option and use TRICARE Standard services (Lamar, personal communication, November 1996). CHAMPUS eligibility, benefits and cost sharing are defined in Chapter 55 of Title 10, United States Code.

To help ensure fuller utilization of the direct care system, CHAMPUS will not pay for private sector inpatient hospital care and some high cost outpatient care provided to beneficiaries living within a 40-mile radius of an MTF, unless those beneficiaries receive prior approval from the facility. This approval is called a "non-availability statement" and it tells the beneficiary that the MTF could not provide the necessary treatment within the required period or did not have the capability to provide the needed health care service. Beneficiaries living outside the 40-mile radius of the MTF are not required to obtain a non-availability statement.

More than a third of the almost six million people who are eligible for CHAMPUS use its benefits annually at a government cost of nearly \$3 billion. In FY 93, CHAMPUS expenditures were approximately \$3.5 billion, nearly as much as was spent on nonactive duty beneficiaries in the direct care system (\$3.9 billion) (GAO, March 1995).

In an effort to control spiraling health care costs, CHAMPUS implemented several payment mechanisms for inpatient and acute care services. In 1987, CHAMPUS, following the model established by the Health Care Financing Administration (HCFA) for the Medicare Prospective Payment System, has used the diagnosis-related group (DRG) to develop prospective payment rates for hospital care. Under this system,

CHAMPUS will pay hospitals a fixed fee per patient. In 1992, CHAMPUS began paying physicians based on national prevailing charges, adjusted to reflect local economic conditions using Medicare's Geographic Practice Cost Indices. Today, CHAMPUS payment levels for many procedures are at or near Medicare Fee Schedule amounts. In order to protect beneficiaries and avoid impairing access to care, the payment level reductions can be waived if they would impair access (OASD/HA, March 1995).

Within the past ten years, several alternatives to the direct care system and CHAMPUS have been implemented to contain health care costs within the MHSS. The more familiar programs include: the CHAMPUS Reform Initiative (CRI) demonstrations; Tidewater Virginia (Coordinated Care) demonstrations project; PRIMUS/NAVCARE Clinics; Base Realignment and Closure (BRAC) site managed care initiatives; and the Managed Care Support Program contracts for California and Hawaii (Lamar, 1994, p. 4).

The introduction of these health care reform initiatives can be attributed to ever increasing health care costs, growing numbers of military retirees and dependents, high medical inflation, and the problems inherent in the MHSS itself. Historically, these problems included: uneven access to care; overcrowding in the MTFs; inefficient distribution of health care resources; duplication of effort among the military medical services; lack of a standardized health benefits package; decreased DoD funding levels; and beneficiary confusion concerning available health care options (CBO, April 1994).

Armed with the lessons earned from its previous health care initiatives and faced with escalating health care costs and reduced funding, Health Affairs has begun the

monumental task of redesigning the MHSS through a system-wide implementation of TRICARE's Triple Option Benefit Program, Capitation-based resource allocation and an Alternative Managed Care Support financing approach for Health Service Regions 1, 2, and 5.

### **3. The TRICARE Program**

In December 1993, DoD submitted a plan to the Congress for establishing a managed care plan nationwide, referred to as TRICARE. The goals of this plan are to ensure that eligible military beneficiaries have access to stable, high-quality health care benefits and to improve the efficiency of the military health care system. To accomplish those goals, DoD proposes to establish a new approach to delivering and financing health care in the military on a regional level that will include both a system of capitated budgeting and a new triple option benefit package (CBO, April 1994).

#### **a. Triple Option Benefit Structure**

The TRICARE program would offer eligible military beneficiaries three options for health benefits. One choice would be to enroll in TRICARE Prime, a plan modeled after private sector health maintenance organizations (HMOs), but with a point-of-service (POS) option that would permit enrollees to retain the freedom to choose their own doctor. TRICARE Prime is available to all CHAMPUS eligible beneficiaries. Active duty members are automatically enrolled and there are no annual fees for them and their families. Enrolled nonactive-duty members will pay an annual enrollment fee and reduced CHAMPUS cost shares and copayments (point-of-service charges). TRICARE Prime enrollees will also have access to a Primary Care Manager (PCM) who

is responsible for coordinating patient referrals for health care within the integrated civilian and military provider network (BUMED paper, 13 October 1995).

A second choice would be to continue using the standard CHAMPUS benefit plan, called TRICARE Standard. Beneficiaries are not required to enroll and have a greater choice in selecting their particular provider. In doing so, beneficiaries will also continue to have access to the MTFs on a space-available basis in order of their priority status. When care is not available at the MTFs, beneficiaries under TRICARE Standard will retain the freedom to choose their own doctors, but they will pay higher out-of-pocket costs than under TRICARE Prime. This option also requires payment of annual deductibles and more costly copayments (BUMED paper, 13 October 1995, p. 16).

A third choice for those using TRICARE Standard would be to participate in TRICARE Extra, a preferred provider option (PPO), on a case by case basis.

TRICARE Extra requires no enrollment and offers the following features:

- Lower costs (five percent lower cost share after deductible is met with lower negotiated network provider rates).
- Less paperwork (no claim forms to file).
- Choice (beneficiaries choose from a network of providers).
- No balance billing (if using network providers) (BUMED paper, 13 October 1995, p. 16).

Table 3.1 and Table 3.2 summarize the TRICARE enrollment options and cost shares for active-duty family members, retirees and their family members. As



mentioned earlier, there are no enrollment fees for active-duty family members.

Currently, a single retiree pays for an enrollment fees of \$230 and \$460 for a family. The average active duty family is expected to save an average of \$200 per year under TRICARE Prime compared to TRICARE Standard. Despite the fees, the average retiree family is expected to save \$160 a year under TRICARE Prime compared to TRICARE Standard.

### **TRICARE Enrollment Options and Cost Shares for Active-duty Family Members**

	<b>TRICARE Prime (E-1 thru E-4)</b>	<b>TRICARE Prime (E-5 and above)</b>	<b>TRICARE Extra</b>	<b>TRICARE Standard</b>
Annual Deductible	\$ 0	\$ 0	\$ 150 individual \$ 300 family	\$ 150 individual \$ 300 family
Civilian Outpatient Visit	\$ 6	\$ 12	15 percent of negotiated fee	20 percent of allowable charge
Civilian Inpatient Care	\$ 11 per day (\$ 25 minimum)	\$ 11 per day	Greater of \$ 25 or \$ 9.70 per day	Greater of \$ 25 or \$ 9.70 per day

**Table 3.1. TRICARE Option Costs<sup>4</sup>**

---

<sup>4</sup>Source: Foundation Health Services, Inc., TRICARE Program Features and Benefits Handbook, 1996, pp. 10-12.

## TRICARE Enrollment Options and Cost Shares for Retirees, Survivors and Their Family Members

	TRICARE Prime	TRICARE Extra	TRICARE Standard
Annual Enrollment Fee	\$ 230 per person \$ 460 Family	None	None
Annual Deductible	None	\$ 150 per person \$ 300 per family	\$ 150 per person \$ 300 per family
Civilian Outpatient Visit	\$ 12 copayment	20 percent of contracted fee	25 percent of CHAMPUS allowable
Civilian Inpatient Care	\$ 11 per day (\$ 25 minimum)	Lesser of \$ 250 per day or 25 percent cost-share of total contracted rate	Lesser of \$ 323 per day or 25 percent cost-share of total billed charges

**Table 3.2. TRICARE Option Costs<sup>5</sup>**

### 4. Lead Agents

In 1993, DoD established twelve health service regions across the country. Within each region, DoD has appointed a military medical "Lead Agent" (the commanding officer of a major military medical center in the region) with responsibility for coordinating the health delivery systems of each of the military services, as well as CHAMPUS (BUMED Paper, 13 October 1995, p. 21).

Specifically, each Lead Agent will be responsible for developing a Regional Health Services (RHS) plan in conjunction with the hospital commanders of the military

---

<sup>5</sup>Source: Foundation Health Services, Inc., TRICARE Program Features and Benefits Handbook, 1996, pp. 10-12.

medical facilities within the region. Each plan is expected to outline how the region intends to meet the goals of managed care, and in particular, its plans for both setting up a civilian provider network and adopting utilization management (CBO, April 1994).

MTFs within each region retain their parent Service's chain-of-command. Consequently, each Service will retain their authority to make decisions regarding direct care (MTF) operating funds, facility maintenance, and personnel actions. Therefore, the Lead Agent does not control the funds that flow from the Services to their respective facilities within the region or the CHAMPUS funds, which are controlled by DoD and the contractor. Lead Agents are, in effect, coordinators who attempt to ensure that MTFs in their region seek the most economical and efficient care possible.

Since the Lead Agent does not necessarily have the same Service affiliation as the MTFs in the region, the specific responsibilities of the Lead Agents can vary among regions. Clearly, the success of the TRICARE program will be ultimately dependent on the Services' willingness and ability to work together cooperatively to ensure the efficient and effective execution of the regional health plan.

Table 3.3 presents information on the twelve lead regions, including the designated Lead Agent for each region, the states included in the region, the estimated number of beneficiaries, and the number of military medical centers and hospitals located within each region.

<b>Region</b>	<b>Lead Agent</b>	<b>States in Region</b>	<b>Beneficiary Population</b>	<b>Hospitals and Medical Centers</b>
1	National Capital (Bethesda, Walter Reed, Malcolm Grow Medical Centers)	CT, DE, D.C., ME, MD, MA, NH, NJ, NY, PA, RI, VT, & Northern VA	1,093,918	12
2	Portsmouth Naval Hospital	NC, and Southern VA	872,011	8
3	Eisenhower Army Medical Center	GA, SC, and parts of FL	1,063,770	12
4	Keesler Air Force Medical Center	AL, TN, parts of FL, and LA	595,024	10
5	Wright-Patterson Air Force Medical Center	IL, IN, KY, MI, OH, WV, and WI	653,328	5
6	Wilford Hall Air Force Medical Center	AR, OK, parts of LA and TX	949,778	14
7	W. Beaumont Army Medical Center	AZ, NV, NM, and parts of TX	323,058	8
8	Ft. Carson Army Medical Center	CO, IA, KS, MN, MO, MT, NE, ND, SD, UT, WY, and part of ID	732,821	13
9	San Diego Naval Medical Center	Southern CA	710,461	7

<b>Region</b>	<b>Lead Agent</b>	<b>States in Region</b>	<b>Beneficiary Population</b>	<b>Hospitals and Medical Centers</b>
10	David Grant Air Force Medical Center	Northern CA	328,590	5
11	Madigan Army Medical Center	OR, WA, and parts of ID	350, 439	4
12	Tripler Army Medical Center	HI	151,750	1

**Table 3.3. TRICARE Regional Breakdown<sup>6</sup> (Continued)**

### **5. Managed Care Support (MCS) Contracts**

In addition to providing new options for health care and a new regional structure, TRICARE expands upon the DoD's experience in using contracted providers in demonstration programs to the entire MHSS. This program currently consists of a series of seven managed care support contracts that supplement the capabilities of regional military health care delivery networks within the Health Service region. These contracts are procured centrally by the Office of the Civilian Health and Medical Program of the Uniformed Services (OCHAMPUS).

The contracts are bid on a competitive basis, and are considered fixed-price, at-risk contracts. Only the administrative portion of the contract has a fixed price; however, the health care price is subject to adjustments based on the basis of risk-sharing provisions in which the contractor and the government share losses or gains beyond

---

<sup>6</sup>Source: GAO, Report to Congressional Requestors, Defense Health Care, "Issues and Challenges Confronting Military Medicine," 12 March 1995.

certain level. Price adjustments can be based on factors such as inflation, beneficiary population change, and MTF workload shifts. The risk-sharing and bid price adjustment features are intended to protect both the contractor and the government from large risks associated with these complex contracts (Boyer and Sobel, 1996, p. 786).

The contracts, in general, are for a 5-year period (1 year plus 4 year option years), and DoD estimates that they will have a combined value of about \$17 billion. In some cases, a single contract will be awarded for multiple regions (i.e., single contracts will be awarded for Regions 2 and 5, Regions 3 and 4, Regions 7 and 8, and Regions 9, 10 and 12) (Lamar, 1994, p. 11). All contracts are expected to be awarded by 1997. (Scaramozzino, personal communication, October 1996)

Specifically, the contractors will develop networks of civilian providers around the MTFs, locate providers for beneficiaries, perform utilization management functions, process claims, provide beneficiary support functions, and provide administrative support to the Lead Agent, MTF commanders and staff (Scaramozzino, personal communication, July 1996).

The role of the Lead Agent in these MCS contracts is to provide input to the contract proposal and include any region-specific requirements. The Lead Agent is also responsible for ensuring the smooth integration of the civilian provider networks with the MTFs (Lamar, 1994, p. 11).

## **6. Specialized Treatment Services (STS)**

CHAMPUS beneficiaries in need of certain highly specialized high-cost medical care will be referred to a designated national or regional military or civilian treatment

facility - - a Specialized Treatment Services (STS) facility. The specific types of care to be covered and the sites at which specialized care must be obtained will be announced by Health Affairs. A medical facility may be designated as an STS based on its record of readiness, access, quality, and cost. Lead Agents may designate regional STS facilities as a component of their regional health plans. An MTF commander can withhold a non-availability statement (NAS) based on the availability of care designated at STS sites (Lamar, 1994, p. 12).

## **B. PROBLEMS IN THE PROVISION OF MILITARY HEALTH CARE**

Beneficiaries and providers in the direct care sector of the military health care system face few incentives to economize. This is mostly due to two factors: (1) a benefit structure with low cost-sharing requirements that encourages excessive use by patients; and (2) a lack of constraints on providers to curb the delivery of unnecessary and inappropriate health care. These problems are compounded by the interplay between the services' wartime and peacetime missions.

### **1. The Department of the Navy's Medical Mission**

The Navy Medical Department provides a comprehensive health care benefits package to its nearly 2.6 million beneficiaries, including active duty sailors and marines, their families, survivors, retirees and all their families. This entitlement has grown over the years from the initial requirement of providing health care to assure a healthy fighting force to that of providing a comprehensive health benefit as part of an overall employee compensation package. This package is essential to attracting and maintaining necessary

people to meet the Department of the Navy's (DON's) all-volunteer force and its mission requirements (Lanier, 1993, p. 121) .

The Navy Medical Department, just like the other Services' medical departments, must be prepared to operate and support the warfighting forces in every corner of the world. It meets this mandate through forward deployed medical forces placed on board combat ships and hospital ships, fleet hospitals, in overseas (OCONUS) MTFs, at dental treatment facilities (DTFs), and with the Fleet Marine Force (FMF). In the continental United States (CONUS), through a direct care system of MTFs, the Navy Medical Department provides training and support for forward deployed medical units, additional primary care services, secondary, and tertiary levels of care to active duty DON, and other uniformed service members. The CONUS MTFs also provide a rotation base for relief from operational assignments and duty OCONUS.

Figure 3 illustrates the dynamics involved in meeting Navy medicine's dual health care mission: the readiness requirement and the benefit of employment requirement. This thesis will briefly describe the military's peacetime health benefit mission and the related problems associated with it.



# Navy Medicine's Dual Mission

## The Health Care Continuum

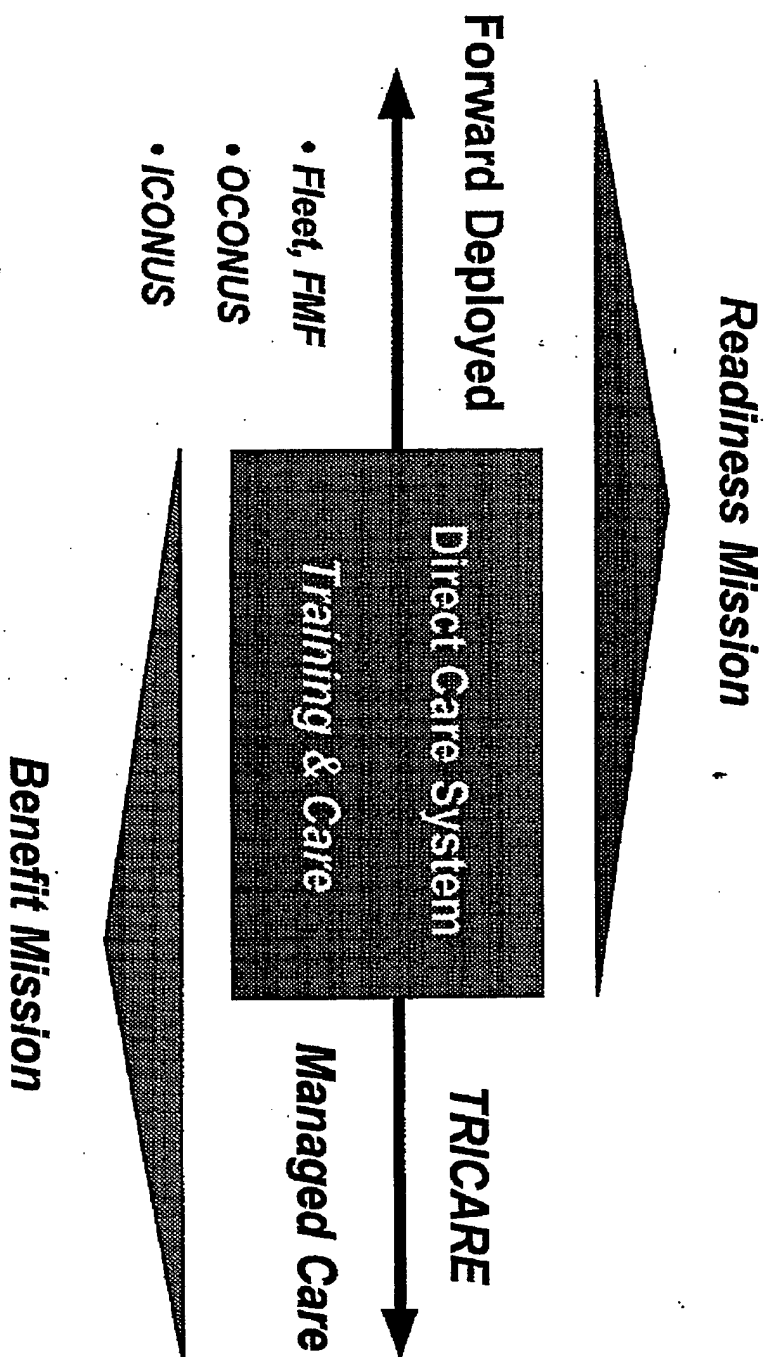


Figure 3: Navy Medicine's Dual Mission

## **2. The Problem of High Use**

Compared with other health care plans, the military health care benefit, in general, is extremely generous. Care in the MTFs is virtually free to eligible beneficiaries. These beneficiaries face no deductible and almost no copayments for outpatient care and prescription drugs. Even for inpatient care, some beneficiaries pay only nominal fees, while others pay nothing. In addition, eligible military beneficiaries are not subject to any premium and depending on TRICARE option, some have no requirement to enroll in a military health care plan, but instead are free to receive all, some or none of their care from the military health care system. The generosity of the benefit structure may help to explain why, compared with the U.S. population at large, military beneficiaries under the age of 65 make heavy use of health care.

### **a. Outpatient Care**

Active duty family members make heavy use of outpatient services. While the average rate of outpatient visits in the civilian population is about five a year, active duty dependents average seven outpatient visits a year - - a difference of 40 percent. Such high per capita use is one cause for the tremendous outpatient workloads in MTFs, making it difficult for beneficiaries to obtain care in a timely manner. The typical non-active duty patient waits about 10 days to get an appointment with a military physician, which is twice as long as the wait reported for nonactive outpatients in civilian facilities. In a sense, then, high per capita use feeds dissatisfaction among beneficiaries (CBO, April 1994).

## **b. Inpatient Care**

Active duty family members also make extensive use of inpatient services. For every thousand dependents living inside a military catchment area, DoD pays for 676 hospital days a year. By comparison, hospital day rates for the general population younger than 65 years of age was 530 per thousand -- a difference of about 22 percent. The probable reason for extensive military use is a high rate of admission, as opposed to greater than average lengths of stays in military hospitals (CBO, April 1994).

Another reason for high use of inpatient services in the MTFs suggests a variation in practice patterns of physicians in different regions or catchment areas. This variation in practice patterns of physicians can significantly influence utilization management in patient care (Scaramozzino, personal communication, October 1996). After catchment area populations are adjusted for age and sex disparities, 25 percent of the catchment areas had more than 247 hospital admissions per thousand active duty dependents (the 75th percentile among the 129 catchment areas analyzed), and 25 percent had 187 or fewer admissions per thousand (the 25th percentile). The median catchment area had 219 admissions, with the range extending from 81 admissions to more than 385 admissions per thousand dependents (CBO, April 1994). The differences among catchment areas are not discussed in this thesis.

Historically, the capacity of military hospitals and clinics (MTFs) has fallen short of requirements for both missions . However, the resulting estimates in the congressionally directed "*Section 733 Study*" indicate that the MTFs' capacity is now

well above the projected wartime requirements, in contrast to the situation that existed during the Cold War (OPA&E, April 1994).

The peacetime portion of the “733 Study” examined the economics of sizing the military medical establishment and determined if care in MTFs is more cost-effective than care received under CHAMPUS. The results of the study concluded that, for individual episodes of treatment, it costs less to provide care in the MTFs than through CHAMPUS and that recapturing CHAMPUS' workloads on a one-for-one basis would lower DoD's costs (OPA&E, April 1994).

However, the same report found that improving access to care at the MTFs would increase total medical costs, because savings from recapturing individual cases would be offset by increases in the volume of care provided at the MTFs. The principal reason for this finding is that improved access would encourage some beneficiaries to reenter the military health care system and forgo receiving care from other non-DoD sources. A secondary reason is that the rates of health care use among beneficiaries are higher when they receive care at the MTFs, because it is virtually free to beneficiaries and military providers tend to deliver more care than civilian health care providers (OPA&E, April 1994).

### **C. CAPITATION-BASED RESOURCE ALLOCATION IN THE MILITARY HEALTH SERVICES SYSTEM (MHSS)**

The MHSS has traditionally programmed for health programs on the basis of historical resource consumption and workload trends. A limitation to this approach is a built-in incentive to produce more output, or more services, than may be medically necessary. For example, hospital commanders were rewarded with larger or sustained

budgets for generating more workload without always being held accountable for the necessity of the workload generated.

Driven by the momentum of national health care reform and the continued projections of funding constraints in the future, DoD is attempting to implement several policies to control costs of providing health care services to its beneficiaries. One alternative measure that the DoD instituted to contain health care costs is the system-wide adoption of TRICARE Program to the entire MHSS and a capitated-based resource allocation model.

As mentioned earlier, these real and projected changes within the DoD have created a need to transition from a disease-based workload measure to a capitation-based resource allocation methodology. The particular methodology that the MHSS follows is a population driven capitated model.

### **1. Capitated Budgeting**

To give hospital commanders a fiscal incentive to control costs, DoD introduced a system of capitated budgeting in 1994. Under this system, each of the military departments, and in turn each commander, receives a fixed amount per beneficiary for providing all health care to the population within the hospital's defined service area.

By limiting future budgets to a fixed amount per person, DoD hopes to revise the set of economic incentives facing MTF commanders and encourage military providers to deliver only care that is both necessary and appropriate. This approach, if carried out effectively, would reverse a system of budgeting on the basis of historical patterns by MTFs in providing care and using resources. DoD's approach to capitation eliminates

most of the incentives that reward hospital commanders with larger budgets if they provide more health care.

## **2. Transition of Capitation Budgeting in the MHSS**

DoD's adoption of capitation-based resource allocation in 1994 was not the first foray of the military departments into capitation budgeting. The first trial project of the three Services into capitation budgeting was conducted in the late 1970's.

In the early 1970's, rising military health care costs led to congressional interest in alternative health care delivery systems in which efficiency and cost containment had been successfully demonstrated in the private sector. As a result of increased Administration and congressional interest in military health care costs, among other concerns, the Military Health Care Study was commissioned in 1973 (CBO Report, January 1988).

In August 1973, DoD, in coordination with the Department of Health, Education, and Welfare (HEW) and the Office of Management and Budget, launched a comprehensive study on military health care. The "*Military Health Care Study*" was a major three-year review designed to examine the HMO experience and determine if a capitation budgeting approach similar to those employed by HMOs could be achieved in the MHSS (CBO Report, January 1988).

One of the report's recommendations ("Recommendation No. 5") was that resource programming and budgeting for the MHSS in CONUS should be done on a capitation basis (OASD(HA)'s Working Group on "733 Study" Update, Appendix G,

16 May 1996). In addition, this comprehensive study of the military health care system made the following recommendations:

- Planning for health care delivery should be based primarily on the size and demographic characteristics of the population to be served;
- Funds for the direct care system and for CHAMPUS should be integrated; and
- Costs per beneficiary should be developed and used as a measure of efficiency and performance. (CBO Report, January 1988)

These recommendations formed the basis and purpose of the Capitation Budgeting Demonstration (Pilot) Project from 1978 to 1981. However, during the subsequent evaluation, a government contractor determined that the tested methodology did not result in significant improvements over the traditional budgeting system. Consequently, the demonstration or first capitation-budgeting pilot project was terminated (CBO, January 1988).

Then, within the past decade, both domestic and global events, such as the fall of the Berlin Wall, the uncertain domestic economy, the breakup of the former Union of the Soviet Socialist Republics, and the downsizing of the U.S. military forces, brought significant challenges to DoD. With increasingly tight constraints on resources, and public clamor to reap a peace dividend, DoD has sought to maintain its vital mission of military preparedness as well as to execute its medical mission more effectively.

More recently, the role of the MHSS in the restructuring of the nation's health care delivery system, driven by the momentum of national health care reform, has been addressed by both the Administration and Congress. The national debate centers around

how best to improve access to quality care and achieve economies without reducing the health care benefits of beneficiaries.

The focal point of capitation-based budgeting in conjunction with the TRICARE program is to control health care costs and optimize the use of all MHSS resources. As discussed in the previous chapter, capitation budgeting is a recognized strategy for health care cost containment in the private sector.

#### **a. Chronology of Events**

The following studies, reports and reviews undoubtedly played an important role in the implementation of a capitated budgeting in the MHSS. These events over the past three years have helped shape the use of capitation financing in the Department of Defense's Medical Program:

- July 1993 -- A policy memorandum from the OASD(HA) entitled "Preparing the Military Health Services System (MHSS) for Capitation-based Resource Allocation" dated July 23, 1993 directed the implementation of the FY94 capitation methodology for the Military Departments to be used in allocating FY94 Defense Health Program (DHP) funds.
- April 1994 -- "The Economics of Sizing the Military Medical Establishment -- Executive Report of the Comprehensive Study of the Military Medical Care System" directed by Section 733 of the National Defense Authorization Act for Fiscal Years 1992 and 1993, and further modified by Section 723 of the Fiscal year 1993 National Defense Authorization Act, and conducted by the Department of Defense, Office of Program Analysis and Evaluation, concluded that "DoD can cost-effectively size to peacetime requirements only if it manages the demand effect through a combination of ... managed care and capitation budgeting, possibly including copayments and deductibles for care received in MTFs."
- May 1994 -- "Defense Planning Guidance FY1996 - 2001," dated May 23, 1994 suggested actions regarding the medical infrastructure: "Peacetime medical expenses should continue to undergo aggressive review. The Assistant Secretary of Defense (Health Affairs) will continue to implement



plans to control medical costs, including the use of capitation financing methodology to support medical facility budgets, and devise methods for directing patients to most appropriate sources of treatment, such as gatekeeping and utilization management.”

- March 1995 -- “Representatives from the Offices of the Director, Program Analysis and Evaluation and the Assistant Secretary of Defense (Health Affairs) co-chaired a working group to study the structure of medical programming in the DoD and to refine the current capitation model for analyzing Defense Health Program (DHP) resource requirements. This effort was intended to form the basis for work by a Program Review Issue Team for the FY97-01 Program Review.”
- May 1995 -- The “Defense Planning Guidance FY1997-2001,” dated May 9, 1995 suggested the following actions: “...The Assistant Secretary of Defense (Health Affairs) will control medical costs by using the capitation financing methodology to support medical facility program development, budget formulation and execution, and to devise methods for directing patients to the most appropriate sources of treatment, such as gate-keeping and utilization management.” (Draft 733 Update Report, Appendix G, 16 May 1996)

But even before the full effect of the events described above has been assessed, the call has come from Health Affairs to revisit the capitation budgeting standards designed to allocate DHP resources. In August 1996, Health Affairs asked the military medical departments to identify representatives to participate in a TRI-SERVICE Capitation working group. The objective of this working group is to review the DHP Hospital-level Capitation Model and to make recommendations to improve the model (P. Kearns, personal communication, August 1996).

### **3. Basic Resource Allocation Plan**

The Health Affairs' resource allocation plan is based upon a two-step process that reflects each Service's individual requirements, yet is consistent with the overall Defense Health Program resource allocation framework. Health Affairs allocates CHAMPUS,

direct care operations and maintenance (O&M), and military personnel resources to the three Services, using a modified capitation methodology.

Then the Military Departments allocate resources to each of their MTFs based on a modified capitation methodology, which is designed by the Services to meet their unique requirements as approved by Health Affairs. Also, the Military Departments will identify all CHAMPUS resources for each of the twelve regions. The method for further allocating the CHAMPUS resources will be dependent on the historical CHAMPUS costs for each of the catchment areas and the existence of a fixed price, "at-risk" TRICARE Support contract. Calculation of the allocation of CHAMPUS resources to MTFs in regions with such contracts will be done by Health Affairs and provided to the Military Departments (Frederick, personal communication, August 1996).

**a. Operation and Maintenance (O&M) and Military Personnel (MILPERS) Resources**

Under the regionalization concept, the operation and maintenance (O&M) direct care and military personnel (MILPERS) resources will continue to flow from Health Affairs through the Military Departments to the MTFs without change. The MTF commander will continue to have control over the allocated O&M direct care and military personnel resources.

In order to minimize potential problems, Health Affairs did not change the authority and responsibility of the MTF commanders to make manpower decisions regarding military assignments and balance in their overall staffing levels. In a sense, MTF commander were allowed to direct military personnel resources, on a temporary basis, to provide needed health care services in lieu of contracts or CHAMPUS at other

MTFs. Service-specific command and control of the MTFs and legal liability for over-obligation of O&M direct care resources did not change (OASD(HA) Memorandum, February 1994).

**b. CHAMPUS Resources**

All CHAMPUS resources are allocated by Health Affairs to the Military Departments based on the capitation methodology. Until TRICARE Support contracts are established for all regions, the Military Departments will continually calculate catchment area and non-catchment area CHAMPUS costs for their beneficiaries in each of the regions.

In regions that do not have a TRICARE Support contract in place, the operations and maintenance (O&M) CHAMPUS funds were included in the budget allocation of the Military Departments. The Military Departments hold their Service's share of the CHAMPUS budget at the Service headquarters level. Since Lead Agents have administrative responsibility for coordinating the management of the CHAMPUS program, Military Medical Departments are required to identify the beneficiaries' share of the CHAMPUS requirement for each region, and report the amount held for each region to the Lead Agent's parent service. Each of the Lead Agents receives information and fiscal guidance through their parent Service's chain-of-command that identifies their total CHAMPUS budget with Service-specific and catchment area-specific subtotals.

For example, the Navy has Lead Agent responsibility for Southern California, Region 9. At the Surgeon General's level, the Air Force and Army will notify the Navy of the total funds they are holding for their Services' beneficiaries in the

Southern California region. The Navy Medical Department (Bureau of Medicine and Surgery) will then be responsible for providing the necessary financial information and fiscal guidance to the Lead Agent, who is the Commanding Officer of the Naval Hospital, San Diego, California.

One of the responsibilities of the Lead Agent is to develop and coordinate a Regional Health Services (RHS) plan. Based on the RHS plan, the Lead Agent provides recommendations to the Services that CHAMPUS resources be released to the appropriate MTF for direct care projects designed to reduce overall costs.

Both OCHAMPUS and Health Affairs monitor the expenditure of CHAMPUS resources by the Military Departments. One reporting system that both OCHAMPUS and Health Affairs use to monitor CHAMPUS expenses within a catchment area or region is the Regional Paid Data Management Report (RPDMR). Another system that is useful to the MTF Commander in monitoring CHAMPUS spending is called the Catchment Area Billing Report (CABR).

In regions with TRICARE Support contracts, the MTFs' CHAMPUS allocations are retained by the parent Services and pooled among the Services to fund the Lead Agent's execution of the support contract. Health Affairs calculates both catchment area and out-of-catchment area CHAMPUS allocations and provides them to the Military Departments. Under this methodology, each Service remains jointly accountable for the TRICARE Support contract (OASD(HA) Memorandum, April 1994).

In managing CHAMPUS funds, the MTF commander is in liaison with the Lead Agent, the specific Service, and even OCHAMPUS. The Regional Lead Agent

helps coordinate medical care between different Services' MTFs. For those services not offered at an MTF, the Commander can seek assistance from the Lead Agent. If there is an MTF in the region to which a patient can be referred, it can be a cost saving alternative. It may be that a service unavailable at one MTF in a region is available at another and that referral opportunities can be created which will obviate the need for developing or enhancing the needed service at the first MTF. The referring MTF may pay the marginal cost of treating that patient if the receiving MTF cannot absorb the referral in their funding base. This concept is known within the MHSS as “transfer payments.”

#### **4. Transfer Payments**

Transfer payments are unique to the military and not a factor in the private sector capitated model. This thesis will not show the algorithms used to determine transfer payments. Instead, the conceptual framework employed by Health Affairs will be discussed.

Transfer payments are handled at the headquarters level of the three military health services. This avoids having local MTFs reimburse other MTFs for providing care to beneficiaries outside their 40-mile catchment area, referred to as “cross- over population.” Usually, MTFs have funds in their base to treat a majority of these patients based on their history of referrals from outside their catchment area. However, if a non-catchment area beneficiary receives care from an MTF that is not included in their base, then a transfer payment will be made. The time interval at which these payment will be

made has yet to be determined (i.e., quarterly or annually) (Leibold, personal communication, 18 September 1996).

## **5. Shared Resource Management**

Lead Agents are responsible for and have the authority to oversee CHAMPUS dollars for their regions following the award of the TRICARE Support Contract. Each of the hospitals within the regions will be funded directly for direct care and military personnel dollars. However, CHAMPUS funds will be managed on a regional basis. Although the capitated budget of the MTF includes its CHAMPUS target, these targets are rolled up to the regional level for Lead Agent oversight. Thus, a balance will have to be achieved between direct care and CHAMPUS operations. The effective management of referrals between direct care and CHAMPUS providers, coupled with strong utilization management efforts within both systems, will be essential to the financial success and optimal use of regional health care resources.

This optimization of regional health care resources implies making the best use of available resources to achieve the objectives of a system, subject to the constraints under which the system operates. In the context of resource sharing, this translates into determining the types and amounts of resources which should be shared between an MTF and a TRICARE Support contractor in order to ensure the lowest overall health care costs for the government, subject to the constraints of the contract and the MHSS in which it operates.

From the MTF perspective, resource sharing presents an opportunity to enhance its in-house capability to provide a greater proportion of the care needed by the

beneficiaries it serves and to do so under conditions which enhance the working environment within the MTF. Due in part to the inflexibility of the resource allocation system under which MTFs operate, there are often circumstances in which an MTF does not have the right mix of resources to provide a particular service in an efficient manner. Resource sharing may provide a method of fixing this imbalance with only minimal marginal cost increases to the MTF, by allowing the contractor to provide needed services or support personnel in exchange for the MTFs providing more visits for CHAMPUS eligible beneficiaries.

Resource sharing is one feature of TRICARE Support Contracts which allows the contractor, through agreements with MTF commanders, to provide personnel, equipment, supplies, and in other versions of the contracts, cash payments to an MTF for purposes of enhancing the capability of the facility to provide care to CHAMPUS-eligible beneficiaries (OCHAMPUS Memorandum, December 1994). It is based on an assumption that costs associated with the provision of these resources will be more than offset by decreased CHAMPUS costs and will result in savings to both the contractor and the government.

However, one of the pitfalls of resource sharing with TRICARE Support contractors is an implied contractual obligation on the part of the government to cooperate with the contractor in implementing an effective resource sharing program, so that the cost avoidance goals of the contract can be met. In essence, resource sharing opportunities must be carefully analyzed prior to entering into agreements and closely

monitored during operations to ensure that the CHAMPUS cost avoidance goals of the contract are achieved or exceeded in such a way that:

- 1) The MTF's budget is not jeopardized because of the level of its own resources required to support the project; and
- 2) Overall savings for the MHSS are achieved (OCHAMPUS Memorandum, December 1994).

An example is a resource sharing agreement in which a cardiology service is provided by the contractor for CHAMPUS-eligible beneficiaries within the MTF. This new service would allow recapture of CHAMPUS costs and better utilization of existing facilities. However, it may result in increased costs for in-house ancillary services. There is also a strong likelihood that this new service would result in an increased pharmacy costs due to additional prescriptions being filled for expensive heart medications. Therefore, MTF commanders and staffs must be aware of the costs they incur in conjunction with the resource sharing program. Also, health care administrators need to evaluate how their investments in resource sharing programs will impact their individual operating budgets as well as contract costs.

Another feature of the TRICARE Support Contract that may result in additional government costs for the resource sharing program is the Bid Price Adjustment, a mechanism for determining payment for health care contracts.

#### **6. The Bid Price Adjustment (BPA) Formula**

Bid Price Adjustment is a formula which calculates the ultimate amount of funds a contractee will receive for accepting a managed care support contract. There are many



different scenarios which can be played out using BPAs. The main point is that payments to the MTF and MCS contractee are adjusted for changes in the total workload. The contractor is responsible for at least a minimum fee to the contractee. Because the contractee gears up resources to accommodate the potential influx of patients, the contractor is responsible for a portion of these fixed costs. However, the BPA contract is not a fixed fee contract. The government is not obligated or committed to the entire agreed dollar contract amount.

For example, suppose an MTF has an estimated 3,000 orthopaedic cases in its catchment area for the year, but has a limited number of military providers (i.e., Orthopaedists) and can only accommodate 1,500 cases. A managed care contract will be established for those remaining 1,500 cases that the MTF cannot accommodate. The contractee who accepts the contract is paid based on the amount of work it performs. Thus, if the MTF recaptures a portion of the contractee's 1,500 cases, contract payment is adjusted. The opposite also holds true. If for some reason the MTF closed their Orthopaedic service and the contractee had to absorb the increased patient load, they would also receive an adjustment utilizing the BPA formula.

Captain Montgomery, in his paper entitled "Optimizing Resource Sharing Opportunities Under Managed Care Contracts," presented this "simplified" BPA formula:

$$PC = O \times R \times E \times K$$

where:

**PC = the projected cost for the cost category,**

**O = the MTF utilization index,**

**R = the resource sharing trend factor for the cost category,**

**E = the projected number of eligibles in the option period; and**

**K = the projected weighted cost per eligible for the option period,  
with no changes in MTF utilization or resource sharing taken  
into account (Montgomery, 1994, pp. A2-3).**

One of the ways in which the above formula is oversimplified is that the resource sharing trend factor (represented above by "R") is actually one of the many factors that go into making up the projected average weighted cost per eligible (represented above by "K"). That is, the "K" term actually does take resource sharing into account. The other factors that go into computing the projected average weighted cost per eligible are:

- The base-period cost per eligible for TRICARE Prime, Extra, and Standard;
- The projected proportion of eligibles who use TRICARE Prime, Extra, and Standard; and
- The total trend index for TRICARE Prime, Extra, and Standard for the option period. (Montgomery, 1994, pp. A2-4)

This trending of weighted costs occurs for all other cost categories and for each patient type for each option period. Thus, each resource sharing trend factor exerts its own impact on the particular cost category to which it applies and removes the contractor's projected savings due to resource sharing investments from the health care cost build up, on which the bid price is based.

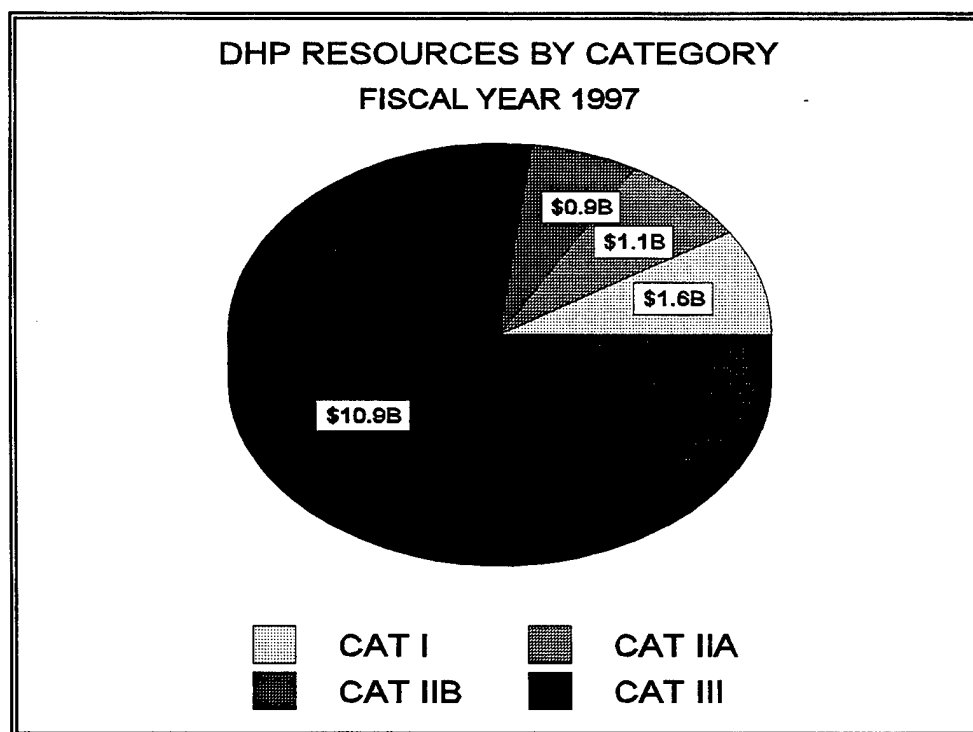
#### **D. HEALTH AFFAIRS MODIFIED CAPITATION MODEL**

As mentioned in the previous section, as part of the transition to TRICARE, the DoD adopted a modified capitation approach in which the OASD(HA) allocates some resources to the services' medical departments on a per capita basis. This model is a population driven system which is based on users instead of eligible beneficiaries. The model was designed to ensure that the military unique functions of the MHSS, those dealing with medical readiness, have all the required funding needed to support its operations.

Health Affairs, in agreement with the Services' representatives, established major components to determine a Service's share of DHP resources and for setting the capitated rate. The major components of this modified capitation model are: Total Resources (Operations and Maintenance (O&M)); CHAMPUS; Military Personnel (MILPERS); and Cost Drivers (*User Beneficiary Population*).

The DHP capitation model is comprised of three separate resource categories: Category I (Overseas and Military Unique Non-Capitated); Category II (Military Unique Capitated Rate and Education and Training); and Category III (Capitated Medical Care). Each category is further divided into subcategories. Segregating resources into categories and subcategories identifies and protects the medical readiness mission, allows for the application of the appropriate population based cost drivers, and provides a means of assessing the cost effectiveness of DoD health care with civilian resources (OASD(HA) Policy Paper, July 1993). Figure 4 presents the percentage of Defense

Health Program resources by category for FY97. A more detailed description of each category is presented below.



**Figure 4: DHP Resources Category - FY97<sup>7</sup>**

**1. Capitation Category I - Overseas and Military Unique Non-Capitated**

The Overseas Activities subcategory includes all resources necessary to support the DHP's overseas medical presence. Resources for overseas activities are estimated on a capitation basis using active duty members and family members of active duty population stationed overseas as a cost driver.

The Other Military Unique Non-Capitated Functions subcategory includes all resources for Aeromedical Evacuation, the Armed Forces Institute of Pathology (AFIP),

---

<sup>7</sup>Source: Colonel Frederick (OASD(HA)), Briefing Paper: "Health Affairs' Capitation Methodology," 1996.

Environmental Restoration/Compliance, Capital Expense Initial Outfitting, and the Military Entrance and Processing Command (MEPCM). This subcategory is programmed on a non-capitated, level-of-effort basis.

## **2. Capitation Category II - Military Unique Capitated Functions and Education and Training**

Category II reflects those costs associated with mission requirements which are unique to each of the Military Medical Departments. Activities which support a large number of active duty military receive an additive value to the capitated rate since this category is actually based on the size of the Services' military force structure.

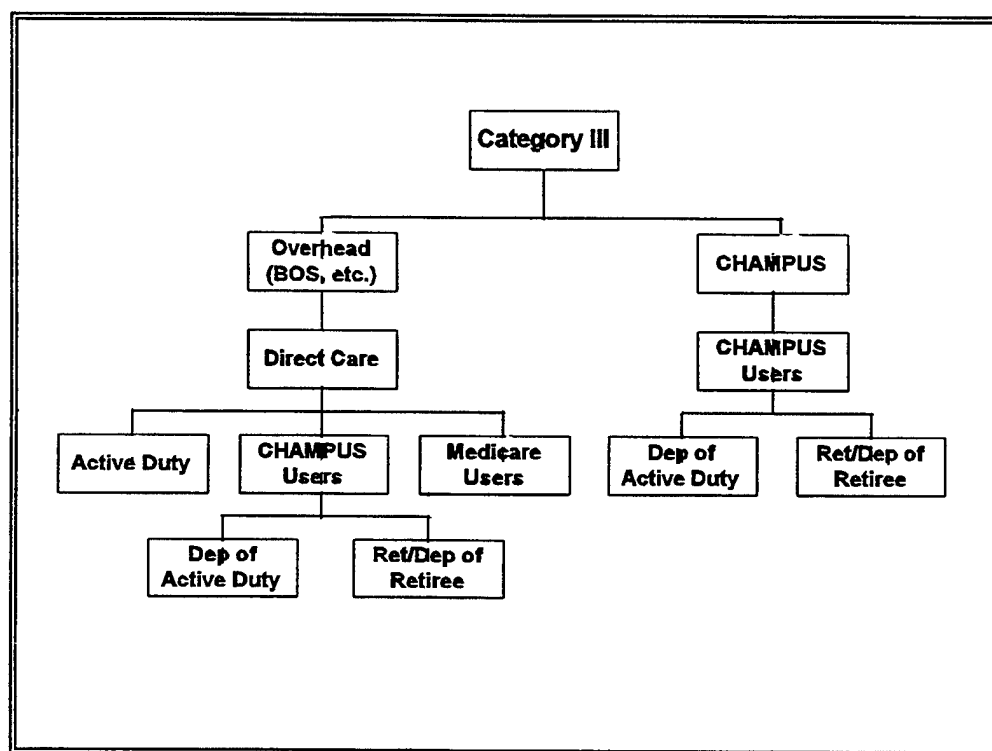
Category II is composed of two subcategories: Category IIA (Military Unique Capitated Functions) and Category IIB (Education and Training). Category IIA includes Public and Occupational Health, Blood, Dental, Veterinary Medicine, Optical, and Readiness Exercises. Resources are estimated using the U.S. active duty military population as a cost driver. Category IIB includes the medical technical schools operated by the three Military Departments, the Health Professions Scholarship Program (HPSP), and Graduate Medical Education (GME) programs.

## **3. Capitation Category III - Capitated Medical Care**

Category III contains approximately seventy five percent of DHP resources and is divided into three subcategories: In-house Direct Care, CHAMPUS, and Other Business Operating Support (OBOS). This category is the bulk of the Services' medical capitated cost, which is similar to the rate seen in HMOs and managed care plans in the private sector. The aggregate of these three components makes up the Health Affairs capitated

budget. Appendix B provides steps in determining the Health Affairs capitation requirement.

In-house Direct Care, CHAMPUS, and Other Support subcategories are further divided by beneficiary category: US active duty military members, US CHAMPUS users, and US Medicare eligible users. Figure 5 below shows the relationships of capitation Category III and its funding subcategories and their respective drivers.



**Figure 5: Capitation Category III Funding: Relationships of the Funding Subcategories and Their Respective Drivers<sup>8</sup>**

---

<sup>8</sup>Source: OASD(HA), Report of the "733 Study" Update Working Group, Appendix G, 16 May 1996.

#### **4. Defined Beneficiary Population**

Not all MHSS eligible beneficiaries use the system (CBO, April 1994, p. 6). For the purposes of computing capitation rates, Health Affairs used the number of estimated users of the system, based on full-time equivalents, rather than the number of eligibles. Health Affairs acknowledges that it does not know the number of actual users because it does not require beneficiaries to select and enroll in a single health care plan. Until an enrollment system is in place, the number of users will be measured by means of a survey. Health Affairs, through a health services research unit (located at the Naval Postgraduate School in Monterey, California), conducts a questionnaire survey of MHSS beneficiaries semi-annually to gather various statistics on MHSS utilization. From this survey, Health Affairs can determine the estimated number of users by Service, region and MTF.

Thus, for computing the capitated rate, Health Affairs used an estimate of the number of actual users, based on full-time equivalent (FTE) users of direct care and CHAMPUS. Appendix C describes the methodology that Health Affairs uses to calculate the *user population*. The three Services, however, in formulating their "Service specific" capitation methodology, used eligible beneficiaries vice actual users to help their MTFs transition to a capitated financing system. The Military Departments use their Service-specific methodology or methodologies to re-allocate DHP resources by capitation to the MTF or catchment area level (OASD(HA) Memorandum, July 1993).

## 5. Calculation of the FY94 Capitated Rate

The OASD(HA), in coordination with the three Services, implemented the modified capitation methodology and used this model to allocate FY94 DHP funds (OASD(HA) Memorandum, July 1993). Figure 6 presents a basic equation for determining the capitated rate per beneficiary. The three elements of the Category III costs comprise the numerator for determining the Services' capitation rates. For Health Affairs, the number of estimated users is the basis for determining the denominator.

$$CAT I + CAT II (A\&B) + \frac{CAT III}{DEFINED BENEFICIARY POPULATION} = \text{Capitated Rate}$$

**Figure 6: Health Affairs' Modified Capitation Formula**

The base year of FY92 was used and adjusted to reflect existing funding anomalies, such as the Army's Base Operating Support (BOS) costs, items funded from other than Medical Force Program 8 sources, and others. The amounts expended in FY92 for Military Medical Support and Military Medical Unique Capitation Rate were subtracted from the total obligations to yield the Medical Capitated Cost amount. Then, this amount was divided by the Military Department estimated user beneficiary



population to yield a Military Department specific capitation rate. This rate was inflated and adjusted to FY94, with corrections based upon FY93 execution data. As the model evolves and more costs are identified under each specific Capitation Category, the need for adjustments will be eliminated.

## **E. SUMMARY**

In sum, TRICARE represents a major reengineering of the way health care is managed in the MHSS. Significant components include a system of primary care managers and health care networks, comprehensive utilization management, a performance outcomes program, resource sharing incentives, and a modified capitation-based resource allocation model. Lead Agents and MTF commanders will be aided by changes in how the delivery of care is organized and financed and by incentives that optimize MTF utilization.

Along with providing quality care, containing cost, and improving patient access, integrating CHAMPUS and direct care systems has been the focal point of coordinating different types and levels of care in the MHSS. Because of the scope, magnitude and complexity of the MHSS and the extensive nature of its managed care elements, the capitation-based financing model will continue to be a major challenge as the DoD's TRICARE program is implemented nationwide.

The next chapter will discuss the Department of the Navy's capitation-based resource allocation model. It will also address some of the issues and problems in implementing a capitation-based financing system within the Bureau of Medicine and Surgery (BUMED).

#### **IV. CAPITATION IN THE DEPARTMENT OF THE NAVY**

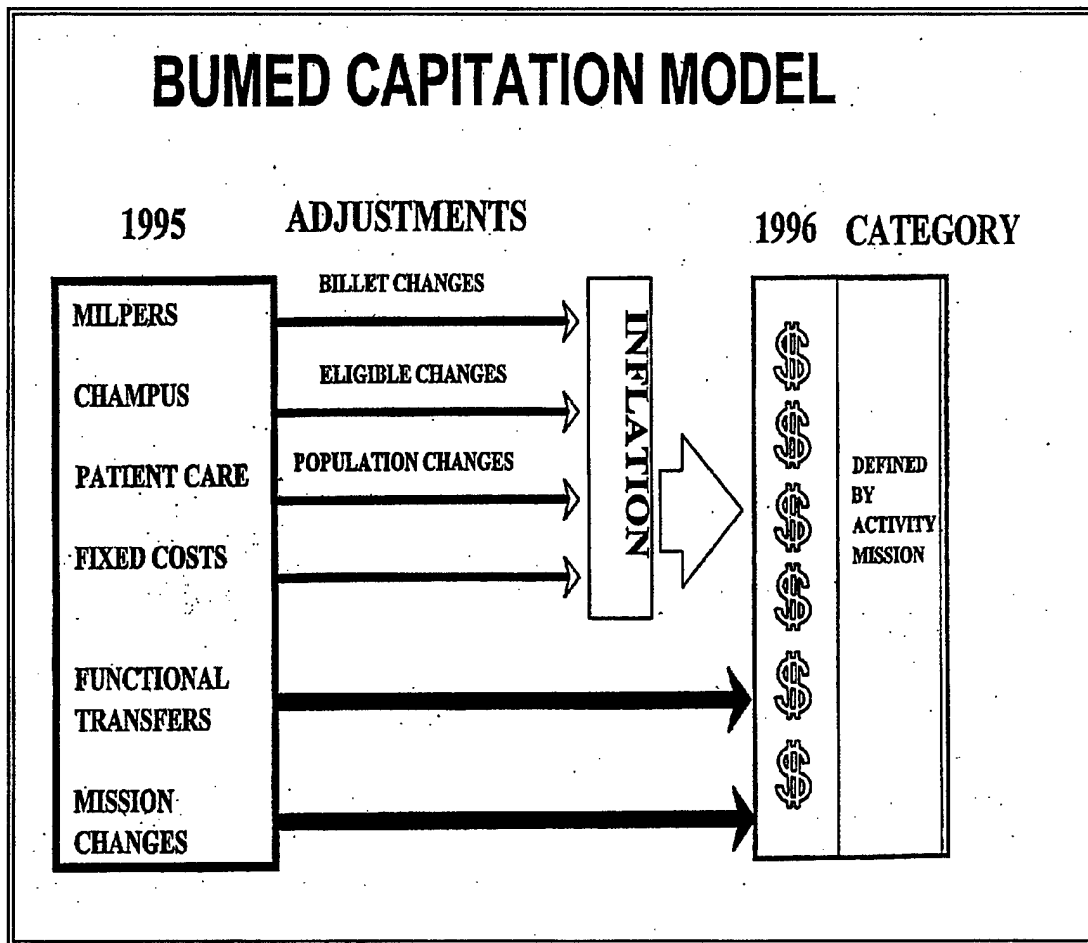
The Navy Medical Department has traditionally programmed and budgeted for health care programs on the basis of historical workload. This approach is limited due to a built-in incentive to produce more output units to gain increased resources. In other words, the more work that is generated, the greater the amount of resources. In FY94, the Navy Medical Department introduced the use of a modified capitation-based resource allocation methodology under the direction of Health Affairs. The fundamental purpose for implementing this model is to create the proper incentives for the efficient use of scarce resources.

This chapter will discuss the concept of a capitation-based resource allocation model in the Bureau of Medicine and Surgery (BUMED), the major claimant for medical resources within the Department of the Navy (DoN). A subsequent section will describe the various information systems available to BUMED to support its capitation-based financing model. This chapter will also describe the "readiness-focused" capitation concept as proposed by the resource programmers at the Medical Finance Division of the Office of the Surgeon General (N-931), as an alternative approach to programming, planning and budgeting for BUMED's funding requirements.

##### **A. CAPITATION IN BUMED**

Capitation in BUMED is structured and approached differently than at Health Affairs. Specifically, the major difference is that BUMED uses "eligible beneficiaries" as the defined population, whereas Health Affairs bases its capitation process on "users."

The main reason for this departure from Health Affairs is to assist the MTFs in the transition to a capitation-based resource allocation system. As pointed out by Byrne, changing organizational culture and mind set from a fee-for-service, workload based system to a capitation-based model takes time (Byrne, 1995, p. 64). Figure 7 depicts the process BUMED follows to capitate the funds received from Health Affairs.



**Figure 7: BUMED's Capitation Allocation Process<sup>9</sup>**

<sup>9</sup>Source: Martin, C. P., MED-01, Briefing Paper, "Program/Budget Realities and Change," Undated.

Health Affairs and BUMED use the same capitation categories. These categories include the OASD(HA)'s category breakouts of Military Medical Support (Category I), Military Medical-Unique Capitation (Categories IIA and IIB), and Medical Capitated Cost (Category III). However, in allocating direct care Operations and Maintenance (O&M), CHAMPUS, and military personnel (MILPERS) resources down to the MTFs level, BUMED blends historical experience with prospective per-capita calculations (BUMED Memorandum, 15 June 1994). Table 4.1 summarizes BUMED's capitation categories and the programs or functions that belong under each category.

<b>Capitation Category</b>	<b>Programs/Functions</b>	<b>Measures</b>
Category I (Military Medical Support)	OCONUS Medical Operations, OCONUS Dental Operations	Based on Inflation and Adjustment of Historical Bases
Category IIA (Military Medical-Unique Capitation)	Readiness Functions, CONUS Dental Operations, Optical, and Office of Medical & Dental Affairs (OM&DA)	Based on Active Duty Population Served
Category IIB (Education and Training)	Education and Training	Based on the Total Medical Department Officers and Enlisted on Staff
Category III (Medical Capitated Cost)	CONUS Medical Operations, CHAMPUS	Based on Total Beneficiary Population Served

**Table 4.1: BUMED's Capitation Budgeting Categories<sup>10</sup>**

---

<sup>10</sup>Source: Zarkowsky, J., MED-13, Briefing Paper, "How to Live Within a Capitated Budget," March 1995.

In general, BUMED begins its allocation process by reviewing the missions and functions of each command, such as a medical center, hospital, or "free standing" medical clinic. Next, based on historical expenditure review, BUMED compares the activity's base year (expense operating budget) and the activity's "end-of- the-year" obligations. The activity's end of the year obligations are then adjusted for all one time "incremental" costs (BUMED Memorandum, 12 June 1994).

For example: to determine the FY-97 expense operating budget (EOB) for one of its activities, BUMED begins with the FY-96 funds allocation, subtracts FY-96 one-time costs, adds FY-97 new starts, then adjusts for programmatic changes, and finally, adds pay and inflation adjustments. The results of command reviews are consolidated by category to develop BUMED's overall Category I, Category IIA, Category IIB, and Category III requirements. Table 4.2 provides a summary of BUMED's FY96 funding base by each capitation category.

<b>\$ (Thousands)</b>	<b>O&amp;M</b>	<b>MILPERS</b>	<b>TOTAL</b>
CAT I	\$ 179,692	\$ 193,600	\$ 373,292
CAT II	161,878	457,126	619,004
CAT III	2,526,488	911,753	3,438,241
<b>TOTAL</b>	<b>\$2,868,058</b>	<b>\$ 1,562,479</b>	<b>\$ 4,430,537</b>

**Table 4.2: BUMED's FY96 Funding Base<sup>11</sup>**

---

<sup>11</sup>Source: BUMED Paper, "First Quarter, FY96 Budget Execution Review," 22 February 1996.

As mentioned earlier, each fiscal year's control figure is calculated from the previous year's total patient care and non-patient care dollars. The activity's EOB consists of both patient and nonpatient care dollars, and serves as the control figure for each activity. (A detailed discussion on how BUMED derives patient and non-patient care dollars, CHAMPUS, and MILPERS will be presented in the following section.) However, only the patient care dollars serve as the numerator in the BUMED's basic capitation formula. The denominator is based on estimates of eligible population derived from the Resource Planning and Analysis System (RAPS). RAPS projects military beneficiary population by beneficiary category and geographic area.

To determine the capitated rates for Category II and Category III, the total amount expended for direct care O&M, CHAMPUS, and MILPERS dollars for each category is divided by each respective population base. However, as pointed out by one of BUMED's Budget Analysts, this figure does not contain fixed and administrative costs (Sullivan, personal communication, August 1996).

Another difference between the Health Affairs and BUMED's capitation-based resource allocation approach deals with the way BUMED apportions the DHP funds down to its activities. Only the direct care O&M and the other business operating funds (OBOS) are actually apportioned down to the MTF level as part of the activity's EOB. As a control measure, BUMED does not allocate MILPERS, CHAMPUS and Other Procurement (OP) dollars below the claimant level (Sullivan, personal communication, 1996). Consequently, only target figures, in dollar amounts, are assigned for MILPERS

and CHAMPUS funding for each MTF. The OP account is centrally managed by BUMED. It is used to purchase investment equipment. Sometimes, BUMED distributes OP dollars down to the MTF level on an as needed basis, and only after the activity has provided the necessary justification for the requirement and BUMED has validated the activity's requests.

### **1. Direct Care Dollars**

The starting point for the calculation of direct care O&M dollars is patient care dollars per beneficiary contained in the BUMED's AWARE program. These estimates and ratios serve as the basis for allocating funds to each activity. (The AWARE program and other information systems that support the implementation of a capitation-based financing system will be discussed later in this chapter). The patient care dollars in the AWARE program include direct care, supplemental care, pharmacy, radiology, and laboratory dollars. BUMED considers these as *variable costs*. This value (used as dollars per beneficiary) is multiplied by the eligible beneficiary population for the new fiscal year. (BUMED Memorandum, 15 June 1994)

Adjustments for one-time costs are applied to the result of the calculations discussed above. After calculating the inflation rate, the result is the total patient care dollars for the new fiscal year.

### **2. Nonpatient Care Dollars**

Nonpatient care dollars are also managed using the AWARE program. In the allocation process, these are treated as *fixed costs* and are not capitated based upon

changes in population. Adjustments (e.g., one-time costs, functional transfers, and others) and inflation are applied to produce a total nonpatient care dollar amount for the fiscal year. (BUMED Memorandum, 15 June 1994)

In BUMED's capitation model, the activity's total expense operating budget (EOB) is reduced for the Maintenance and Repair (M2/R2) dollars. The M2/R2 dollars, just like the other procurement (OP) account, are centrally managed by BUMED and considered a one-time incremental adjustment for subordinate activities. The M2/R2 dollars are funds appropriated for the activity or MTF for special repair and alteration projects that are not in the commanding officer's local authority. (Sullivan, personal communication, 8 November 1996)

### **3. CHAMPUS Dollars**

The starting point for the calculation of CHAMPUS dollar *targets* is the CHAMPUS dollars per eligible beneficiary contained in the AWARE program. This provides the latest estimates and ratios for allocating targets to each field activity. Subsequently, the CHAMPUS cost identified for the activity is divided by the eligible beneficiary population (using the most current RAPS population estimates) to determine the CHAMPUS capitated rate. The CHAMPUS eligible beneficiaries are figures taken from RAPS, and do not include active duty beneficiaries and persons over 65 years of age. To determine the CHAMPUS targets for the new fiscal year, the rate calculated above is multiplied by the inflation rate, then the result is multiplied by the latest RAPS population estimates. (Sullivan, personal communication, 8 November 1996)



As Managed Care Support (MCS) contracts come on-line, the calculations for CHAMPUS targets for the MTF in that region will be done differently. Instead of using CHAMPUS data in the AWARE program, CHAMPUS targets for the MTFs that have MCS contracts will be based on the Regional Paid Management Data Report (RPMDR). (Sullivan, personal communication, 8 November 1996)

#### **4. MILPERS Dollars**

The starting point for the calculation of the military personnel (MILPERS) dollar targets is the onboard strength of each activity at the end of the fiscal year. The dollar amounts are based on military personnel costs ("expensed") at the end of the fiscal year (Sullivan, personal communication, 8 November 1996).

The onboard strength is adjusted for billet changes known from the previous fiscal year and the dollar amount is also adjusted for the following fiscal year pay increase. Officer and enlisted billets and dollar targets are adjusted to more accurately reflect changes in the cost of military personnel. (BUMED Memorandum, 15 June 1994)

In addition, billet changes are used to adjust the officer and enlisted onboard strength in each fiscal year. These changes are then reflected as a result of "approved" changes from the Bureau of Personnel's (BUPERS) billet file. Next, the dollar targets are calculated by using the DoD's Composite Pay Rates per person for officers and enlisted personnel, and then totaled to obtain a target amount for the fiscal year. (BUMED Memorandum, 15 June 1994)

## **B. INFORMATION SYSTEMS TO SUPPORT BUMED'S CAPITATION MODEL**

Good data is crucial to implementing a capitation-based resource allocation model. MTF commanders and military medical managers need ready access to a high-quality data system that tracks beneficiaries, their numbers, demographics, and health care status. Military managers also need detailed and timely data on use patterns, patient case-mix, and individual physician practices.

The following are examples of current systems available to support the implementation of the modified capitation-based resource allocation process:

### **1. BUMED's Annual Work and Resource Evaluation (AWARE) Program**

As stated earlier, BUMED uses data in the Annual Work and Resource Evaluation (AWARE) program as a starting point in its modified capitation model allocation process. The AWARE program was designed and developed by individuals from BUMED's Resource/Comptroller Directorate. Its primary objective is to provide financial and workload data in a time series format (12 month moving period) for use in trend and performance analysis. AWARE provides other information to support performance analysis of an activity or MTF, such as staffing, beneficiary population, beneficiary ratios, and medical workload per unit ratios. Table 4.2 summarizes data contained in the AWARE program.

Element	Measurement	Source
Workload	Medical Work Units (MWU)	Standard Expense and Accounting Reporting System (SEARS)
Obligations	Dollars	Standard Accounting and Reporting System - Field Level (STARS-FL)
Beneficiary Population	Eligibles	RAPS
Military Staff	Onboard Strength	BUPERS
Peer Group Comparisons	Ratios, Standard Deviations, Percent variance	Various Management Information Systems

**Table 4.3: Summary of AWARE Data<sup>12</sup>**

## **2. Composite Health Care System (CHCS)**

The Composite Health Care System (CHCS) is a comprehensive medical information system designed and developed to provide automated support to MTFs throughout the world. Composed of integrated modules that are activated either together or independently, this system supports high volume work areas within MTFs and enhances communication between support areas.

CHCS supports a wide range of hospital functions, such as pharmacy, laboratory, patient administration, and physician orders. A managed care program module has been designed specifically to support TRICARE. This module is designed to track the enrollment of beneficiaries in the Prime option, patient appointment bookings and patient referrals. (GAO, 28 March 1995)

---

<sup>12</sup>Source: Sullivan, L. M., (MED-111A), Briefing Paper for BUMED's Resource Conference, "POM-98 Baseline," 24 May 1996.

### **3. Medical Expense and Performance Reporting System/Expense Assignment System Version III (MEPRS/EAS III)**

The Medical Expense and Performance Reporting System/Expense Assignment System Version III (MEPRS/EAS III) provides uniform reporting of workload, personnel, obligation and expense data by MTF for support analyses such as "make versus buy" decisions. MEPRS is the only system that links financial workload and manpower data in a similar manner among the three Services.

There are six major areas of care identified within MEPRS. Each of the six major areas is considered a specialty account, or "work center." These work centers perform the health care services and collect the MEPRS workload data. MEPRS data are periodically compiled by designated individuals in each work center and forwarded to the command's central collection point for data processing.

MEPRS ensures that the MHSS as a whole utilizes uniform accounting principles, standardized terminology, uniform work performance indicators, common classification of expenses by work center, and a common cost assignment methodology (BUMED Memorandum, undated). Currently, MEPRS cost account codes are assigned to a specific capitation category and are used to extract direct care O&M and MILPERS expense data to reflect capitation Category III costs.

### **4. Resource Analysis and Planning System (RAPS)**

Under the capitation-based resource allocation model, the Services use "eligible" beneficiaries in their basic formula. They determine the average eligible population through the use of the RAPS database. As mentioned earlier, RAPS projects military

beneficiary population by beneficiary category and geographic area. It translates population projections into utilization and associated costs. RAPS provides a modeling and analytical tool to forecast military health care beneficiary population, workload, and costs. The model enables users to estimate and analyze the impact of alternative assumptions and policy decisions on resource requirements.

#### **5. Defense Enrollment Eligibility Reporting System (DEERS)**

The Defense Enrollment Eligibility Reporting System (DEERS) is a computer based enrollment/eligibility system used to verify entitlement to a majority of DoD services, including eligibility for health care. Registration in DEERS is an MHSS requirement, regardless of the TRICARE benefit option chosen. Eligibility for health care benefits in DEERS is verified prior to the processing of any CHAMPUS and TRICARE claims (OASD(HA) Memorandum, 14 March 1995). DEERS supports the Services' capitation-based resource allocation model in the determination of the eligible beneficiary population.

#### **6. Defense Medical Information System (DMIS)**

The Defense Medical Information System (DMIS) provides a centralized and integrated database of MHSS beneficiary population, direct care cost and workload, nonavailability statements (NAS), MTF staffing (MEPRS) data, facilities data, civilian norms data, and Uniformed Service Treatment Facility information. DMIS also projects workload and population through RAPS and through requests for special duties. "DMIS is a centralized, non-deployed set of applications software and data bases that supports

the collection, integration, validation, distribution, and analysis of MHSS data concerning population, cost, utilization, and medical treatment data.” (OASD(HA) Memorandum, 23 July 1993)

DMIS provides MTFs and Lead Agents with eligible and user beneficiary population numbers for a defined catchment area through the use of RAPS database. As mentioned in previous chapter, in the Services’ capitation model, the denominator is based on “eligibles,” whereas Health Affairs uses “users” in its basic equation.

#### **7. Retrospective Case Mix Analysis System for Open System Environment (RCMAS-OSE)**

The Retrospective Case Mix Analysis System for Open System Environment (RCMAS-OSE) provides patient-level inpatient utilization statistics and norms (MHSS and civilian) for analysis and evaluation. It contains length of stay, discharge rates, case-mix, non-availability statements (NAS), CHAMPUS charges and population. RCMAS-OSE adjusts for age, gender, and case-mix when analyzing beneficiary categories by Diagnoses Related Groups (DRGs).

RCMAS provides MTFs, intermediate commands (e.g., HSO), Service headquarters (e.g., BUMED) and Health Affairs access to clinical and management information. RCMAS uses direct care and CHAMPUS population and clinical data to provide statistics of observed versus expected workload and utilization trends (OASD(HA) Memorandum, 23 July 1993). In addition, RCMAS provides data for the Services to calculate the “cross over” population (OASD(HA) Memorandum, 23 April 1996). (See Appendix C for a detailed discussion on “cross over” calculation.) Cross-

over calculations are computed at the Service level and used to adjust the activity's total capitated budget.

#### **8. Catchment Area Billing Report (CABR)**

The Catchment Area Billing Report (CABR) provides CHAMPUS billing at the catchment area level. This system allows MTF commanders, who will be responsible for the execution of their CHAMPUS funds once the TRICARE Support Contracts are in placed, to monitor CHAMPUS expenditures.

For the Navy, the Regional Paid Data Management Report (RPDMR) and the CABR are used as a benchmark for establishing a target for CHAMPUS claims based on past performance. Both reports are inputted into the AWARE program and serve as the starting point for the calculation of CHAMPUS dollar targets. CHAMPUS cost is part of the total costs for capitation Category III.

#### **9. Regional Paid Data Management Report (RPDMR)**

The Regional Paid Data Management Report (RPDMR) provides BUMED and the MTF commanders expense data by catchment area showing the benefits being paid by the Office of the Civilian Health and Medical Program of the Uniformed Services (OCHAMPUS). This report is the primary tool by which MTF commanders can track the TRICARE funds being *expensed* in their catchment area (OCHAMPUS actually paying a claim). RPDMR enhances the Catchment Area Billing Report (CABR) by showing the actual amount of funds collected by civilian sector providers for medical services.

Capitation Category III contains approximately 75 percent of DHP resources and is divided into three subcategories: in-house direct care, CHAMPUS, and other support (OASD(HA) Memorandum, 16 May 1996). RPDMR and CABR are currently used to determine the total CHAMPUS costs.

### **C. READINESS-FOCUSED CAPITATION**

The overriding purpose of the military health care system is to be ready in time of war. This objective is embodied in the Navy Medical Department Strategic Plan and articulated in policy papers and working documents such as BUMED's POM-98 Strategy (BUMED Paper, 13 October 1995). The theme presented in this literature is that "readiness is true north." This means that the first priority for BUMED is to capture and finance medical readiness costs, then support infrastructure and health benefit programs. To ensure readiness, priorities should be reviewed and "re-ranked" or re-ordered as needed, and the resources should be shifted accordingly." (Foster, (N-931), Briefing Paper, 30 April 1995)

As BUMED and OASD(HA) continue to refine their ability to respond to new mission requirements associated with changing threats in a new world order, and at the same time strive to contain costs in a constrained budget environment, medical readiness will undoubtedly play a significant role in future medical funding requirements. According to Lanier, one of the most pressing challenges facing military health care managers is how to best balance resources to provide timely access and quality care to



the peacetime health benefit mission as well as comply with medical readiness requirements (Lanier, 1995, p. 126). BUMED is currently experiencing this challenge.

The Navy Surgeon General and the Navy Medical Department have been under continuous pressures to comply with various readiness requirements for the past four years from the Secretary of the Navy, the Joint Chiefs of Staff, and Congress. Their main concern is how medical readiness will support the unique roles and missions of the Military Departments during military operations throughout the operational spectrum into the next century (OASD(HA) Memorandum, 8 June 1994).

A similar issue was evident during the Gulf War. During Operation Desert Shield/Desert Storm, it was observed that many Navy medical personnel were unprepared to perform their mission in the operating environment (GAO, 22 March 1995). After the Gulf War, the Secretary of Defense directed the Secretary of the Navy, in coordination with the OASD(HA), to reevaluate the Navy training requirements for readiness according to the requirements stated in the Defense Planning Guidance (DPG). The major objective of this directive is to bring Navy medical personnel into compliance with DPG and DoN requirements. The Defense Planning Guidance of 23 May 1994, Part III.B.3, maintains that the Navy medical readiness status is below the level specified in its own instruction as set forth in BUMEDINST 6440.5A (OASD(HA) Memorandum, 8 June 1994).

To bring Navy medical personnel into compliance with DPG and DoN requirements, BUMED presented several options to OASD(HA). These alternatives include:

- For the Navy/Marine Corps line to increase the training infrastructure to accommodate Navy medical personnel readiness requirements.
- For the Navy/Marine Corps line to give increased priority and increased training position quotas to Navy medical department personnel.
- Additional funding or transfer of funds to BUMED in order to achieve the objectives of Readiness Requirements (OASD(HA) Memorandum, 8 June 1994).

In addition, as a consequence of the increasing pressure from both the SECNAV and Joint Chiefs of Staff, the Office of the Surgeon General (N-931) developed and proposed to OASD(HA) an alternative process for allocating DHP dollars and resources to each Service, currently known as "readiness-focused" capitation. Developed by the analysts and budget programmers from the Navy Medical Finance Division (N-931) of the Chief of Naval Operations, "readiness-focused" capitation was used as a resource programming, planning and budgeting strategy for POM-98 (Foster, S. E., personal communication, 13 May 1996).

According to Foster (N-931), the Navy's position throughout POM-98 development was to recognize the relationship between the CONUS health care system and the readiness mission. Budget programmers from N-931 developed a methodology to isolate the cost of readiness from the benefit mission. Their objective was to indicate

to Health Affairs that the infrastructure required to support readiness training for medical personnel assigned to CONUS hospitals should be considered part of readiness costs.

(Foster, DHP POM-98 Issue Paper, 1995) Although the infrastructure required to support readiness training in CONUS hospitals also supports the health care benefit mission by delivering care to the non-active duty beneficiaries, these readiness costs are driven by the size of active duty and medical forces, and not by the size of the general beneficiary population. If this infrastructure is not in place, the care for the non-active duty beneficiaries would have to be purchased as an entitlement. (Foster, DHP POM-98 Issue Paper, 1995)

Readiness-focused capitation uses capitation categories similar to those used by Health Affairs, such as Category I, Category IIA, Category IIB, and Category III. Also, “readiness-focused” capitation uses the same defined population (“users”) as the denominator in its basic capitation model. The flow of DHP resources in “readiness-focused” capitation is illustrated in Figure 9. The breakout of readiness-focused capitation categories is as follows:

- Category I - OCONUS Non-capitated Support
- Category II - Military Medical Unique Function
- Category IIIA (MILPERS) - THCSRR<sup>13</sup> Manpower

---

<sup>13</sup>The Total Health Care Support Readiness Requirements (THCSRR) model was developed by N-931 to determine the appropriate mix of health care providers needed to support the readiness mission. The THCSRR model has two main components. The first component identifies active duty manpower readiness requirements necessary to complete both

- Category IIIA (O&M) - Readiness Facility Operations
- Category IIIB (MILPERS) - Non-THCSRR Manpower
- Category IIIB (O&M) - Direct Care System/Managed Care

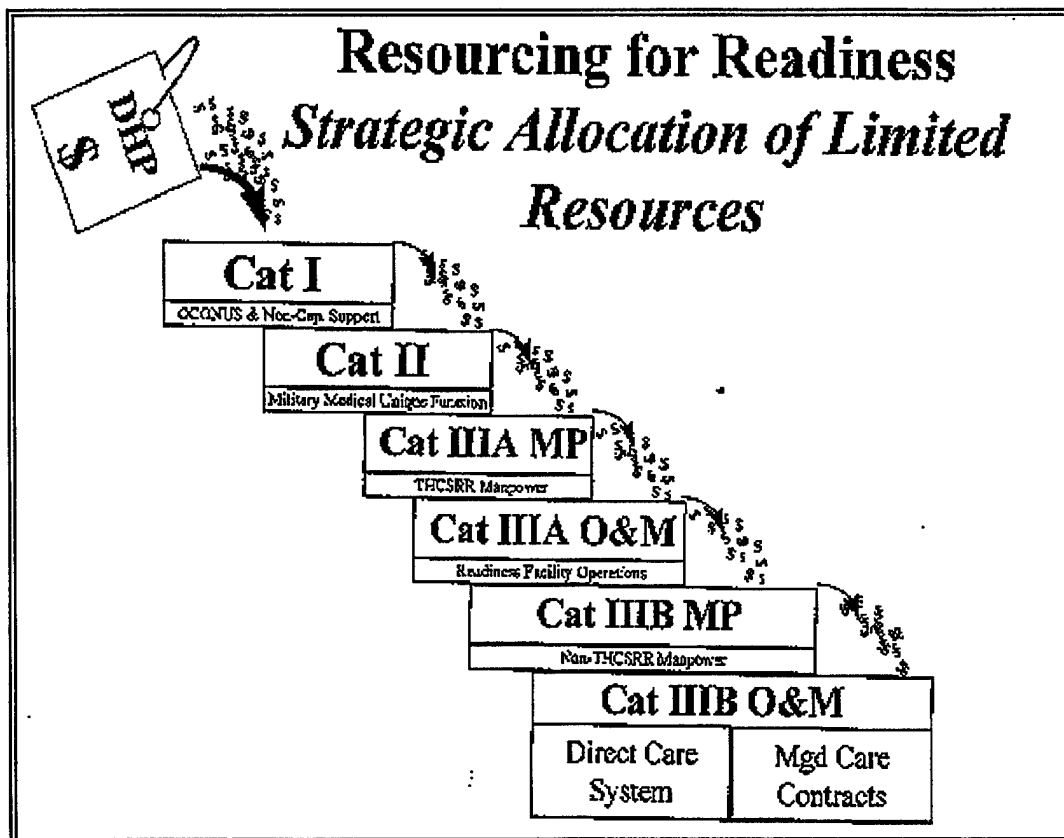


Figure 8: Flow of DHP Funds Under "Readiness-Focused" Capitation<sup>14</sup>

wartime and day-to-day operational support missions. The second component includes the sustainment requirements needed to maintain the readiness manpower requirements for future years. (Weber, T., September 1994)

<sup>14</sup>Source: Foster, S. E., (N-931), Briefing Paper, Defense Health Program for POM-98, Navy Medicine: "Readiness is True North," 30 April 1995.

Under the “readiness-focused” capitation model, readiness determines the allocation of DHP resources. This model provides an opportunity for budget programmers to allocate resources with readiness as the top priority, build programs to support readiness, and re-align resources for additional readiness training requirements. It also assumes that CONUS-based medical infrastructure supports medical readiness training and that these facilities provide the rotation base for OCONUS and other operational tours (Foster, S. E., personal communication, 13 May 1996).

However, there are two major deviations from the Health Affairs' modified capitation model. First, the readiness-focused capitation model splits Category III into Category IIIA (Readiness Facility Operations) and Category IIIB (Direct Care System/Managed Care Contracts). In a readiness-focused capitation approach, the health care continuum consists of “readiness costs” on one side and benefit costs or the “benefit mission” on the other. The cost of readiness includes the direct care system, training, and all of the forward deployed infrastructure (e.g., fleet hospitals, FMF, OCONUS, ICONUS). The capitation-based resource allocation system used by Health Affairs, however, treats the direct care system and training as part of the benefit mission. (Foster, Briefing Paper, 30 April 1995)

Second, readiness-focused capitation recognizes and characterizes Navy CONUS MTFs that are “THCSRR-designated” as part of the readiness requirement. This means that both the manpower and all the fixed costs of maintaining these facilities are critical factors in financing a medical readiness system (Foster, Briefing Paper, 30 April 1995).

## **1. Impact of Readiness-focused Capitation**

Readiness-focused capitation holds great promise for justifying the cost of medical readiness requirements. One of the consequences is that it shifts resources from Category III to Category I and Category II. This shift created several very complex and intricate issues affecting BUMED's budget submission for POM-98. One of these was that BUMED's total funding requirements did not produce an executable budget for POM-98. The shift in resources meant that part of the health care benefit mission, e.g., TRICARE support contracts, managed care and supplemental care programs, became unfunded requirements (Nudd, (N-931), personal communication, August 1996).

In addition, due to limited DHP funds, any increase in BUMED's funding resulting from readiness-focused capitation may come at the expense of the other Services' medical departments. Health Affairs, on the other hand, has a responsibility to ensure that the other Services' medical departments get their "fair share" of DHP funds (Frederick, personal communication, 13 August 1996).

### **a. Fixed Costs and Other Business Operating Costs**

Another argument for readiness-focused capitation is that it must take into account the fixed costs as well as other business operating support costs in determining the overall medical readiness cost. As mentioned in previous section, fixed costs are recurring costs that do not vary with changes in population. Most fixed costs belong to Category III. For the Navy in FY96, the aggregate total is close to \$341 million (BUMED paper, 12 August 1996). Although Navy hospitals and clinics pay directly for

more types of base operating support costs than the Army and Air Force, all three services are capitated at essentially the same rate (BUMED Memorandum, 15 October 1995, p. 18).

**b. CONUS Healthcare Readiness Infrastructure Sizing Model (CHRISM)**

As part of BUMED's efforts to address and comply with medical readiness requirements, it developed a plan to align CONUS MTFs according to their respective role in support of overall medical readiness requirements. This plan is currently known as the "CONUS Healthcare Readiness Infrastructure Sizing Model" (CHRISM). Under this plan, some CONUS MTFs are considered part of the health care readiness infrastructure, referred to as "readiness-financed" MTFs. These MTFs get funding and staffing first (Foster, S. E., personal communication, 13 May 1996). Foster pointed out that all fixed costs for these MTFs should be considered as part of readiness costs. Figure 10 depicts BUMED's Total Readiness Alignment Plan.

However, this argument has some drawbacks. Not all fixed costs in each MTF are directly related to the health care demands of the active duty force. Also, it is unlikely that all "costs of doing business" in an MTF can be directly attributed to medical readiness. Examples include the costs associated in running a child care center in an MTF which is located on its own installation, environmental compliance costs, and BUMED's so-called one-time, specialty projects. These types of costs must be captured to get a clear picture of the MTF's fixed costs associated with medical readiness.

# Alternative Deployment Plan:

## Cross-Organizational Teams

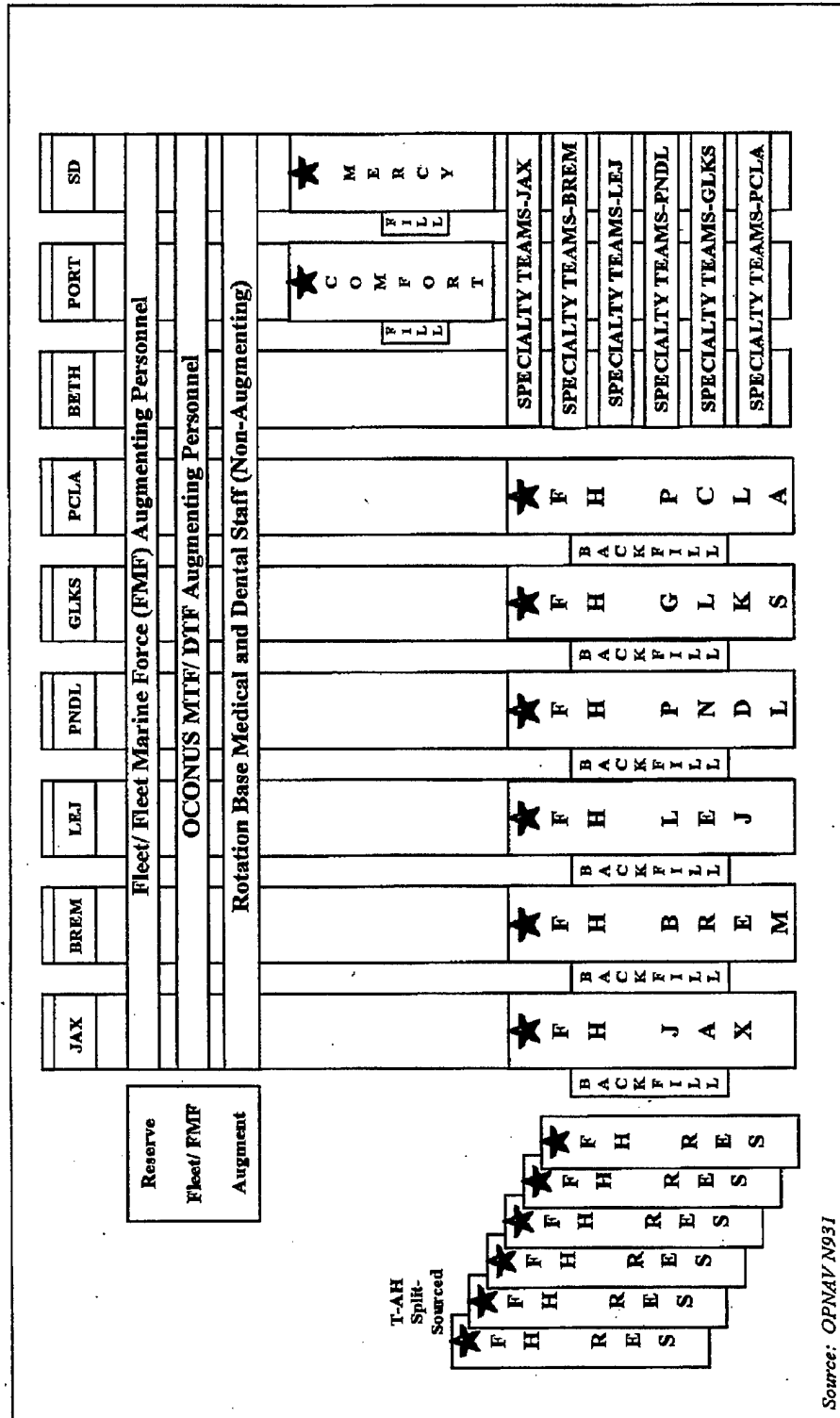


Figure 9: BUMED's Total Readiness Alignment Plan. Ref. "Foster, (N-931), 30 April 1995."



#### **D. SUMMARY**

This chapter provided an overview of BUMED's capitation model and the information systems that are available to support the implementation of a capitation-based financing system. It also addressed "readiness-focused" capitation concept, and its impact, as an alternative approach to programming, planning, and budgeting DHP funds in the future.

The next chapter will provide a discussion of capitation and its impact on resource managers at the MTF level. Also, it will address some of the implementation issues in adopting a capitation-based financing system and how DoD is confronting these problems.

## **V. IMPLEMENTATION ISSUES**

### **A. GENERAL**

In a capitated system, cost management requires reducing both the volume of services and the cost per unit, while maintaining the quality of care and customer satisfaction. To achieve these goals, health care organizations strive to maintain the health of covered populations and provide medically appropriate services in the least intensive and most cost-effective setting. (Cerne, 1994, p. 23)

The challenge of a successful transition to a capitated environment is to implement the necessary changes without jeopardizing the organization. Preparation for capitation should include:

- Creating management and provider incentives;
- Improving and integrating information systems;
- Enhancing preventive services;
- Measuring performance;
- Establishing strong internal utilization management practice and protocols;
- Integrating clinical services. (Kolb and Horowitz, 1995, p. 64)

The point at which an organization makes the decision to move from a fee-for-service payment system to capitation will vary depending on the organization's structure and its elements, complexities of the internal environment, and the multifaceted problems which arise when dealing with various constituents and stakeholders (Kleiman, 1996, p. 40). To succeed in the transition to capitation, it is important that organizations:

- Develop an infrastructure that allows for management of the risks associated with capitation;
- Convince providers that sharing risks in a partnership environment is a win/win arrangement;
- Establish primary care provider networks that can manage the utilization of clinical services;
- Provide access to health care services;
- Recognize that total cost management is a significant goal. (Kleiman, 1996, p. 41)

To thrive in a health care environment dominated by capitated payments, health care organizations must take action before they are forced to do so by the health care market (Kolb and Horowitz, 1995, p. 69). By demonstrating that the organization can share a common commitment to comprehensive planning and managing in those areas mentioned above, and mutually enjoy the rewards that can result, health care organizations under capitation would gain greater control of their economic and strategic positions (Byrne, 1995, p. 41).

## **B. MAJOR OBSTACLES TO THE ADOPTION OF A CAPITATION-BASED APPROACH WITHIN THE MHSS**

According to Cerne, the transition to capitation begins when an organization rejects the traditional mind-set of dividing health care into hospital and physician components (Cerne, 1994, p. 29). Capitation is designed to force organizations to examine the entire spectrum of care, instead of just one component. It requires that the system determine the number of enrolled beneficiaries needed to support the current

structure and the mix of primary and specialty physicians for that population (Rahn, 1995, p. 103).

Although a capitation-based resource allocation approach, along with the implementation of other TRICARE initiatives, promises to control costs and respond to changing military and health care priorities, there are numerous obstacles to achieving these goals. To answer one of the subsidiary research questions, this section will discuss the different obstacles to the adoption of a capitation-based resource allocation system within the MHSS.

### **1. Incentives and Motivating Factor (Profit)**

To foster cost containment, we must be willing to share the fruits of these efforts with those most responsible for their realization. This means the implementation of innovative and effective benefits for the managers and providers who have daily responsibility for the decisions which determine resource utilization. (Rosenstein, 1991, p.313)

The concept of economic incentives and their employment in the health care sector was discussed in Chapter II. The general idea was that economic incentives prompt economic behavior patterns on the part of physicians. In for-profit HMOs, compensation and incentive payments to providers were tied to productivity. To earn a profit, the HMO had an incentive for minimizing costs by reducing future demand for health care services. Management may wield profit as an incentive and control to keep costs in line. In private sector HMOs, profit may be retained and shared by the firm and the physicians practicing within the firm.

In comparison, the MHSS lacks a consistent and sufficient set of management and operational incentives. In a military health care system, the focus is not on per capita costs, but rather on balancing a readiness requirement with the benefit mission. The readiness requirement diminishes the ability of the MHSS to compete with the private sector.

The MHSS is not presently in a position to take advantage of the profit incentive since the organizational structure of the DoD precludes even a weak direct monetary incentive for active duty physicians and other active duty medical personnel. These MHSS providers are salaried, and their compensation is the same regardless of the quality or quantity of the care rendered. They cannot exercise significant control over resources and they do not have any financial incentive to increase their productivity or limit the use of high cost procedures for additional financial remuneration. Contrary to the concept of capitation-based budgeting, no incentive structure exists among MHSS providers to motivate cost consciousness (Kearn, Personal Communication, November 1996; GAO, 1995; Lanier, 1993).

One remedy was suggested by Edmund Chan, OASD(HA). Chan proposed a system of fringe benefits tied to performance for both providers and managers with the potential to discipline or relieve the latter for ineffective or unacceptable performance (Chan, Personal Communication, 1996). This proposal reflects and supports the direct relationship between incentives and performance. However, this initiative would require congressional action to amend certain laws or regulations, which is not an easy task to accomplish.

To generate additional revenue and create a profit incentive for the MTF, DoD has implemented an incentive similar to the private sector fee-for-service payment system that focuses on revenue generating workloads. This incentive is currently called the "third party collection" (TPC) program. It is designed to bill and collect from insurance companies for health care services provided at the MTF for active-duty family members, retirees, survivors and their family members with third party insurance coverage (OASD(HA) Memorandum, 13 August 1996).

The collections from third party insurance companies are retained by the MTFs. This revenue is considered an addition to the MTF's operating budget. In addition, the MTF commander has the authority and flexibility to use the revenue from the TPC program to offset the operating costs of the program and to use the profit from this program as he or she sees fit to meet mission requirements (OASD(HA) Memorandum, 13 August 1996).

Locally, there is another factor that the MTF commander can use to foster or instill a cost-conscious attitude among active duty medical providers. Active duty health care providers' promotions are largely based upon their fitness reports or performance evaluations. Officer fitness reports and enlisted performance evaluations are completed by the MTF's Commanding Officer or his designated representatives. This allows the MTF commanders to influence the active duty providers to deliver care and use the appropriate resources in delivering care consistent with the commanding officer's goals.

## **2. Single Enrollment Plan and Inaccuracy in Population Data**

Under a capitation-based budgeting model, it is necessary to accurately predict the demand for services generated by the beneficiary population. In order to accomplish this, reliable data is required concerning the population being served and the rates at which services are being utilized by that population. (Kongstvedt, 1996, p. 73) An enrollment system, in conjunction with actuarial data, provides information critical to managed care.

The implication with respect to this recommendation is that the enrollment system will accomplish more than a simple head count. Since the key to cost reductions according to HMO experience has been cost effective use of health care services, information on size of the served population alone will be of limited value (Rahn, 1995, 108). The process of enrollment provides an opportunity to gather the demographic information necessary to ascertain probable utilization patterns and to predict resource needs more accurately (Kolb and Horowitz, 1995, p. 74). In addition, enrollment addresses the issue of access control. It establishes a commitment on the part of the patients or consumers to seek necessary services from within the system.

Accordingly, the key to effective capitation financing within the MHSS is to be able to accurately determine the number and type of beneficiaries using the system. However, currently, there is no universal or single enrollment plan within the MHSS, and even the exact number of MHSS eligible beneficiaries cannot be precisely determined (OASD(HA) Memorandum, 23 July 1993).

Currently, TRICARE-Prime is the only program that mandates enrollment, and only for a limited segment of its delivery system beneficiaries. According to a

memorandum published by the OASD(HA), all active duty beneficiaries will be enrolled in TRICARE-Prime (OASD(HA) Memorandum, 23 July 1993). CHAMPUS-eligible beneficiaries are not required to enroll in this specific program and therefore retain their freedom to choose other health care alternatives.

Through the use of various management information systems, such as the Defense Enrollment Eligibility Reporting System (DEERS), the Resource Analysis and Planning System (RAPS), and the Semiannual User Survey, DoD is trying to better understand its beneficiary population and the capacity required to serve that population. (The various information systems required to support the implementation of a capitation-based financing system within the MHSS was discussed in Chapter IV.)

In the meantime, DoD has proposed a new concept, called "revised or alternative financing," which calls for a complete enrollment system. As currently planned, "revised or alternative financing" will be instituted for Regions 1, 2, and 5 (OASD(HA) Memorandum, Undated). The impact of this new financing concept or its influence on a capitation-based resource allocation approach within the MHSS is outside the scope of this thesis.

### **3. Capitation and Management Information Systems**

To manage care in an integrated and capitated payment system, providers must be able to track patient care longitudinally, through all episodes of care and across time. Information must be available on physician office visits, specialist referrals, outpatient procedures performed, inpatient admissions, and follow-up physician visits. Integrated



clinical and financial information is necessary for capturing and extracting important data to document the cost and quality of patient care. (Kolb and Horowitz, 1995, p. 66)

Information systems will ultimately be necessary to extract data to document cost and quality of care (Kolb and Horowitz, 1995, p. 66). The change from fee-for-service to capitated payment causes a dramatic change in financial record keeping (Zaharias, 1995, p. 2). Fee-for-service systems require that patient encounters be documented and subsequent reports produced for the services rendered. Capitation payment systems require more, namely frequent tallies of enrollment, revenue and cost, followed by accurate tracking of services rendered throughout the month (Zaharias, 1995, p. 3).

One of the most complex problems encountered in the transition to capitation is the development of a patient level cost accounting module (Mechanic and Aiken, 1994, p. 52). According to Kolb and Horowitz, as the search for cost-effective treatment protocols intensifies, an organization must know the relative cost of various procedures based on resource utilization rather than antiquated "cost-to-charge" ratios (Kolb & Horowitz, 1995, p. 66). This means that the health care delivery system must have the ability to develop cost information on each patient or group of patients and service type. In addition, accurate cost data should be figured by type of service and should be broken out into components of fixed and variable costs. These data help demonstrate to the providers, patients, and other stakeholders the quality and efficiency with which care has been delivered.

MTF commanders, health care managers, and providers need to be able to keep track of costs by patient, to monitor and possibly limit the volume of services, to monitor

service expenditures, and describe and cost out creative services for keeping patients out of the hospital. Bergman pointed out that knowing this cost is critical because cost overruns place the organization at financial risk (Bergman, 1994, p. 67). Because MTFs receive fixed amounts of funding to deliver their services, they require accurate cost data to function effectively under capitation. This data should include information on medical service costs and hospital support costs. For example, fixed, administrative, and other operating costs could be tracked systematically. This information, coupled with the costs of direct and indirect patient care services, could serve as a benchmark for measuring productivity improvements.

Equally important, data about utilization and outcomes are needed to educate physicians about their practice patterns, especially when the data is severity-adjusted. Under capitation, an organization must integrate and coordinate the various services patients need and must align incentives to encourage appropriate utilization from all providers (Kolb and Horowitz, 1995, p. 67).

DoD and BUMED use several information systems to support a capitation-based budgeting system. Unfortunately, none of these information systems are as robust or well-integrated as they should be. A common problem involves the dissemination of data acquired from these various information systems. Most of the data is traditionally presented to the executive and administrative staff. However, the data do not always get to the medical providers, who could benefit from the information contained in various reports (Scaramozzino, Personal Communication, 25 November 1996). Medical

providers require accurate and timely information to change their practice patterns and effectively manage the use of health services resources.

This lack of adequate and timely information on health care has impeded several DoD initiatives to provide health care more cost effectively (OASD(HA) Memorandum, 23 July 1993). In an attempt to capture both financial and workload data into one integrated system, DoD developed a comprehensive medical information system, currently known as the "Composite Health Care System" (CHCS). CHCS is comprised of various modules to support hospital functions and to capture critical information needed to analyze resource consumption and utilization management throughout the continuum of care. (OASD(HA) Memorandum, 28 March 1995)

However, CHCS is not fully functional in several DoD medical sites, and has experienced some technical and implementation delays. In addition, designers of the CHCS have failed to incorporate a patient cost level accounting system which is critical in identifying the per capita cost of providing care to the defined population with a significant degree of accuracy.

#### **4. Shift in Emphasis from Inpatient to Outpatient Care and Preventive Services**

One way that capitation reverses the logic in health care is by shifting the focus of care from treating illness to maintaining wellness (Kolb and Horowitz, 1995, p. 67). In a fee-for-service system, providers are paid only for taking care of patients when they are sick; in a capitation system, the financial well-being of providers varies directly with the health of the enrolled population. Therefore, health care organizations have a financial

incentive to invest in patient education, early disease detection, and other preventive services.

This requires a significant attitudinal change, a shift in emphasis from inpatient to outpatient care, and a focus on high quality, cost-effective preventive care (Cerne, 1994, p. 31). In general, this means changing the focus toward significantly reducing admissions, especially among patients requiring resource-intensive care.

Kolb and Horowitz noted that HMOs stress increased use of preventive outpatient care to reduce hospitalization costs (Kolb & Horowitz, 1995, p. 65). Other methods used by different private sector HMOs include pre-admission certification, placing providers at risk for total utilization (including ancillary services as well as hospital care), and restrictions on the supply of hospital beds, thereby apparently reducing the number of discretionary cases that can be handled (Kleiman, 1996, p. 40).

DoD adopted capitation as the basic financial foundation for transition into managed care. This is a major change from the way the MHSS previously obtained their resources. However, it also demands a change in the attitude of many of the health care providers from a mind set of "treating illness to maintaining wellness" (BUMED Memorandum, 13 October 1995). Treatment of acute or chronic illness requires more utilization of resources and is more expensive than prevention. Capitation encourages the health care system to use increased preventive health care, primary care, patient education, and self-care to reduce acute illness.

DoD is actively involved in enhancing preventive services and boosting continuing education to promote wellness and the health of its beneficiaries. In developing strategies

to address this issue, DoD implemented TRICARE Program goals for preventive services based on established scientific evidence. The establishment of clinical preventive services such as mammography, pap smears, eye examinations, immunizations, and screening blood levels for high-risk illnesses, are considered part of care for primary care services within DoD. (OASD(HA) Memorandum, 22 February 1994)

Patient and provider education is an essential part of compliance with practice guidelines for preventive clinical services. Patients need to be informed about specific services they need. On the other hand, providers need to know special risk group indications for the specific services that are needed by their beneficiary population.

In support of DoD's initiatives, Navy medicine has developed its own series of specific and interrelated responses toward promoting wellness and enhancing preventive services. Examples of BUMED's initiatives are as follows:

- Establishment of more wellness centers/clinics;
- Re-engineering of the physical fitness program toward prevention of injuries rather than treating them after they occur;
- Re-engineering of "sick-call" structure and procedures by taking health care providers to the "deckplate";
- Establishment of a host of health promotion activities, such as nutrition identification systems at local commissaries, and health promotion weeks; (BUMED Paper, 13 October 1995)
- Emphasizing wellness and prevention in the Navy's Surgeon General Monthly Situation Report (SITREP) to all Navy MTF commanders and medical department staff.

Enhancing preventive services has been shown to produce significant long-term savings. In turn, it may very well help attain DoD's objective of containing or reducing the MHSS overall health care costs.

### **C. OTHER IMPLEMENTATION ISSUES**

There are several other implementation issues raised by the three Military Medical Departments that deserve further review. These include the availability of accurate and timely data, prevention of the shifting of workloads between MTFs, the role of fixed costs in the basic capitation formula, and the lack of provider involvement.

#### **1. Incomplete and Inaccurate Data**

Health Affairs has taken steps to streamline its automated information systems processes, eliminate duplication, and standardize where possible. However, Military Medical Department representatives have expressed their concern about the accuracy and completeness of data that was derived from various management information systems. For example, a representative from the Lead Agent for Region 9 commented that a review of recent referral data provided by the Retrospective Case Mix Analysis System (RCMAS) indicated that several patients were referred from a CONUS MTF to an MTF in Germany. This referral is most unusual, if not highly unlikely, because CONUS MTFs do not refer patients to an OCONUS activity (Cox, P., Personal Communication, 18 September 1996).

Another concern regarding RCMAS is the incompleteness of data. Several factors could contribute to this, such as delays in the MTF reporting due to continued updating of patient records and possibly delays in receiving CHAMPUS data. CHAMPUS-eligible beneficiaries who incurred hospitalization (inpatient) bills have up to one year after

discharge to file a claim. Thus, it takes time to gather and validate the data received at the respective Services' medical headquarters. Consequently, RCMAS data is usually incomplete and one to two months behind in providing up-to-date information. (Cox, P., Personal Communication, 18 September 1996)

Data accuracy is a problem affecting the Medical Expense Performance and Reporting System (MEPRS). MEPRS data allows an MTF to determine costs at the work center level. A list of MEPRS codes is currently used to extract direct care O&M expense data from the MEPRS Central database. However, this list does not accurately reflect all capitation Category III costs. There are several MEPRS codes that are presently assigned to Category III that belongs to other capitation categories (OASD(HA) Memorandum, 27 August 1996).

Another example of data inconsistency between Health Affairs and the Services involves the determination of MILPERS costs. Currently, Health Affairs calculates MILPERS costs by multiplying the assigned full-time equivalent (FTE) of active duty personnel from MEPRS by two different rates (one for officers and one for enlisted), based on average pay. But this method does not produce costs which match those in MEPRS at the activity level or with those reported in the medical headquarters from their MTFs (OASD(HA) Memorandum, 27 August 1996). For example, BUMED and its activities use the DoD's Composite Pay Rate Schedule for computing MILPERS costs.

One of the problems associated with population projection involves beneficiaries using the outlying medical branch clinics, especially those outside the MTF's 40-mile catchment area. Parent commands with clinics outside the catchment area will account for

the costs of operating those clinics, but will not get credit for the non-catchment area population. For these facilities, costs will not align with population, and their capitated rates will be inflated. Due to inconsistencies in determining patient population, calculation of capitated rates will be different between Health Affairs and the Services. (OASD(HA) Memorandum, 27 August 1996)

Health Affairs recognizes the deficiencies in the current information systems and the inaccuracy and incompleteness of the data contained in the various automated information systems. Senior leaders in Health Affairs are determined to make the necessary modifications to existing systems and to acquire new information systems that will be required to support a capitation-based financing concept (Chan, Personal Communication, 8 August 1996).

## **2. Preventing the Shifting of Workload to Another MTF.**

Under the current modified capitation resourcing methodology, an MTF commander is responsible and funded for providing health services to a defined but not enrolled population. In this type of capitated financing system, the MTF commander assumes responsibility for providing health services to a defined population, in return for a fixed amount per beneficiary. A capitated budget helps ensure that MTF commanders use limited resources economically. If the funds received by MTF commanders are based upon the number of eligible beneficiaries in their catchment area, the incentive to perform unnecessary care should be eliminated.

However, in military medicine, the user population of an MTF does not necessarily come from a defined catchment area. Military beneficiaries are not enrolled in the same



fashion as in civilian managed care systems, i.e., they are able to go to any MTF for treatment. Thus, beneficiaries may consume resources for which the MTF is not receiving capitated funds.

Thus, under the capitation-based budgeting system adopted within the MHSS, reducing workloads can result in increasing a commander's discretionary funds. This establishes an incentive to shift workloads to other MTFs at no cost to their operating budget. In an ideal situation, the MTF commander responsible for these users would make a transfer payment to the facility providing the care. But reimbursement for referral care almost never occurs.

Under DoD's modified capitation model, if more work is accomplished at an MTF, no additional funds will come. On the other hand, if less work is accomplished, the MTF can realize savings on a temporary basis. Thus, there is an incentive to shift workloads to other components of the MHSS. This could be easily accomplished by transferring or referring workload that traditionally is covered by CHAMPUS to other tertiary care MTFs. This should result in the transfer of funds from the referring MTF to the MTF where care was actually provided. In other words, funds should go to where the care is provided. However, this transfer of funds does not usually occur, especially among MTFs in the same branch of service (OASD(HA) Memorandum, 17 September 1993).

One way to shed in-house workloads is by limiting the types of drugs in the MTF's pharmaceutical formulary. A pharmacy formulary is a list of all the pharmaceuticals, drugs and other medicinal items that the hospital would carry in its pharmacy. Limiting the formulary can force patients to fill their prescriptions in the civilian sector, which means

increased out-of-pocket expenses for the beneficiaries and increased cost to the government (OASD(HA) Memorandum, 21 June 1994).

Another example where MTFs could reduce workload without significantly affecting their operating budget involves referring high risk patients to specialized treatment facilities (STS) for certain high technology or high cost procedures. Currently, to determine an MTF's capitated budget, historical costs and workload data are utilized with prospective computation of various capitation categories. Thus, MTFs which provided and received referral services in the past are already resourced for those services at the historical level. For example, because of historical workload level, Hospital A was resourced for 100 patients referred from other MTFs, but not resourced for any patients beyond those 100 already in its base. Any additional referrals could adversely affect its operating budget and result in "windfall profits" to referring facilities.

To discourage or prevent workload shifting, DoD adopted an innovative measure, currently known as "transfer payments" in FY95. Transfer payments are unique to the military and not a factor in private sector capitation. Transfer payments are computed and processed at the headquarters level of the three military health services. This avoids local MTFs having to reimburse other MTFs within the same parent service for "cross overs." Currently, transfer payments cover inpatient services only. Administrative and logistical problems have delayed implementation of this mechanism, and no transfers between MTFs or Services have occurred as a result of this policy (Portis, A., Thesis Paper, June 1996).

To manage referrals and prevent workload shifting, DoD is enlisting the help of the Lead Agents. As mentioned in previous chapters, one of the responsibilities of the Lead

Agent is to coordinate health care services within each TRICARE region. Specifically, DoD mandated that the Lead Agents will be responsible for sorting out the referral patterns for ambulatory care within their region (OASD(HA) Memorandum, 9 September 1993). As a result of this initiative, Lead Agents will become a crucial link among MTFs in coordinating the need for patient referrals.

### **3. Exclusion of Fixed Costs in the MHSS Capitation Model**

If the goal of cost containment is to be achieved, a capitated budget must accurately reflect the total cost of operations (Kolb and Horowitz, 1995, p. 65). Under capitation, the capitated budget should necessarily include the costs of financing all health care programs, including all fixed and administrative costs. In private sector capitation, fixed, administrative and other business operating costs are part of the capitation payment.

Within the MHSS capitation model, however, fixed and other business operating support costs are not considered in determining the capitated rate. Fixed costs are not capitated because, according to senior leaders from Health Affairs and the three Military Medical Departments, they do not vary with changes in the population. Some fixed costs may have been included in the Health Affairs allocation of DHP operations and maintenance (O&M) funds down to the Services level; however, they are priced programmatically (i.e., based on historical cost plus inflation), to the extent possible. (OASD(HA) Memorandum, 12 August 1996)

In August 1996, OASD(HA) asked the three Military Medical Departments to identify representatives to form a working group to address the fixed cost issue. The goal of the working group was to review the capitation model and to determine if there are

fixed costs included in the model which should be removed and calculated at a different rate (i.e., fixed rate formula). This was a second attempt to resolve this particular issue. The first attempt failed because the Services could not agree on working definitions of fixed costs based on the data found in the three Services' accounting systems. (OASD(HA) Memorandum, 12 August 1996)

According to the report of the OASD(HA) Fixed Costs Working Group, some fixed costs are included in Health Affairs' current capitation financing model. A majority of these costs are in Capitation Category III, and include base operations, environmental and specialty items in each Service. However, there was no consensus on recommending changes to the model. While the Navy recommended changes in the allocation methodology, the Army recommended no changes, and the Air Force saw little benefit from any change. (OASD(HA) Memorandum, 12 August 1996)

The Air Force representative to the Working Group stated that both fixed and variable costs need to be managed to provide cost-effective health care for the population served. Fixed costs may not vary due to population changes in the short run, but they do not remain constant, due to changes to health care delivery strategies adopted and implemented by senior leaders within the MHSS. However, some fixed costs may be considered semi-variable in nature. In the long term, for planning and budgeting purposes, these costs will be variable and should be treated as such. (OASD(HA) Memorandum, 12 August 1996)

If Health Affairs and the three Services continually segregate a portion of operating costs (i.e., fixed costs) within the capitation model, and in essence make them

uncontrollable, they effectively preclude the opportunity for health care managers and providers to make those cost-effective tradeoffs necessary to attain cost containment goals. If fixed costs are not included in the determination of capitated rates, then the incentive to implement cost containment initiatives is minimized.

#### **4. Physician Involvement in Transition to Capitation**

To mold a capitation-based payment mechanism into a functional tool, it must solicit and incorporate the participation of the physicians. Rosenstein argues that the first change must involve physicians, who control and manage the use of health services (Rosenstein, 1991, p. 325). Byrne notes that for capitation to work, physicians must be involved from the “get-go” (Byrne, 1995, p. 60). Byrne also stated that the most successful capitation models are “physician-driven.” By working together, health care executives and physicians can create operating systems based on capitated payment approach (p. 61).

This requires a lot of trust, understanding, information building, data analysis and presentation, and education. However, educational programs should not just be limited to physicians, but should also include residents and house staff, department managers, administration, ancillary departments, nursing and other parties interested in improving the cost efficiency of medical care (Mechanic and Aiken, 1994, p. 72).

In private sector HMOs that employ a capitated payment mechanism, medical directors are in the “driver’s seat” to make sound judgments regarding the utilization of resources. In addition, they have a fiduciary responsibility to protect the business interest of the organization. Capitation may give physicians the opportunity to increase their

revenue stream by sharing the savings as a result of minimizing costs throughout the whole spectrum of care.

In contrast, personal interviews conducted with several resource managers at a Navy MTF, suggest that active duty physicians and other health care providers are not directly involved in crafting cost containment strategies. They are also not actively involved in planning, managing and implementing effective utilization of resources. Usually, they are more concerned with the delivery of quality care than with managing resources.

There was very little integration between the MTF's executive staff and the physicians in the current transition from the traditional incremental budgeting to a capitation-based financing system. A majority of active duty physicians and other military health care providers may not be familiar with or understand the direction of their organizations in their effort to shift from a fee-for-service system to a capitation-based financing approach.

The fiduciary responsibility in the Navy Medical Department to stay within the appropriated budget lies exclusively with the Commanding Officer and his Comptroller or Fiscal Officer. Active duty physicians do not have any fiduciary responsibilities similar to their counterparts in the private sector. The former make clinical judgments free of monetary considerations. Furthermore, the majority of the active duty physicians and other providers have been insulated from making tough decisions that are required when resources get tight. Decisions regarding resources within the MHSS are usually

shouldered by the MTF commanders or the health care administrators such as Executive Officers, Comptrollers, Directors, and Division or Department Chiefs.

#### **D. CAPITATION AND THE MTF COMMANDER**

In a capitation-based financing system, each MTF would receive funds to provide or arrange for all of the care of an estimated population within its catchment area. Even though there is currently no single enrollment plan in the MHSS, MTF commanders are expected to spend their funds wisely if given enough flexibility and incentives. For example, the MTF commander could hire civilian staff to enhance in-house capabilities, or set up satellite clinics run by either military personnel or civilian employees, or sign contracts with local HMOs.

A key objective of capitation-based resource allocation, as it impacts MTFs, is to contain cost. There is no incentive to spend additional money because additional procedures or workloads will not result in additional funding and the MTF would keep any savings generated by capitation-induced efficiencies. These savings could then be used to purchase state-of-the-art equipment, upgrade computer technology, or integrate information systems.

Capitation should also provide MTF commanders and medical providers greater flexibility to deliver quality care while still controlling costs. Managerial flexibility, accompanied by a substantial decentralization of control over resources, is an essential ingredient of capitation (Kolb & Horowitz, 1995, p. 68). Such flexibility would allow trade offs regarding allocation of resources (i.e., in-house direct care instead of CHAMPUS), and flexibility to use “excess” money to enhance mission requirement (e.g.,

purchase office and medical furnitures, and upgrade existing facilities). One area where MTF commanders need flexibility and broad authority to deliver care economically is in engaging the optimum mix of primary care and specialty physicians, and determining the appropriate rank structure of its active duty staff. However, due to current practices affecting programming, budgeting and allocating DHP funds, control over funds for active duty personnel rests with program managers outside MTF commanders' authority.

To compensate for constraints on active-duty staff personnel, BUMED has exempted MTF commanders from current limits on the numbers of civilian personnel, as it had in the years prior to the implementation of a capitation-based budgeting (BUMED Memorandum, 15 June 1994). This initiative provides MTF commanders additional flexibility and authority over funds from their direct care O&M resources. In essence, MTF commanders could hire the appropriate number of civilian employees needed to supplement the active duty personnel or use the unexpended salaries of unfilled civilian positions to make tradeoffs between delivering care in-house and through managed care contracts in the community.

#### **E. CAPITATION AND RESOURCE MANAGERS AT THE MTF LEVEL**

Information from personal interviews conducted with the Comptroller of Naval Medical Center, San Diego, California, suggests that BUMED's adoption of a capitation-based financing system had very little impact on the budgeting, allocation and resource management at the MTF level (Leibold, Personal Communication, 18 September 1996). Personal interviews conducted with other resource managers at the same MTF, the



Healthcare Support Office, San Diego, California, and the Lead Agent for Region 9 also support this claim.

This observation is further reinforced by a study conducted by IAMETER, a civilian consulting group. IAMETER was hired by BUMED to evaluate the impact of managed care and capitation-based budgeting at the MTF level. According to IAMETER's report, the fundamental operational knowledge of managed care and capitation-based budgeting by executive staff and providers is "not evident" in two large MTFs where they conducted the study (IAMETER Report, June 1996, p. 12). This report also stated that:

Sound knowledge of revised financing/capitation by executive management and physicians and its implication on facility operations is not evident (IAMETER Report, 1996, June 1996, p. 13).

It appears that as long as the budgeting process and the determination of the MTF's future capitated rate are based on historical costs and workloads, MTF commanders and resource managers have a mixed incentives to reduce costs and increase operational efficiency in delivering health care services to their beneficiaries. Increasing operational efficiency improves their ability to accomplish their military mission, but makes their jobs more difficult by lowering their future capitated rate, which could have a direct impact on the MTF's expense operating budget.

The situation described above is further exacerbated by the political environment (too many "bottom lines") where the MTFs operate, and the inherent complexities in the

managed care elements employed within the MHSS. The various managed care initiatives implemented within the MHSS were discussed in Chapter III.



## **VI. SUMMARY AND CONCLUSIONS**

### **A. SUMMARY**

This thesis examined how a capitation-based resource allocation model has evolved in the Military Health Services System (MHSS) and its impact on resource management at the MTF level. To answer this question, one primary and five secondary research questions were addressed. The primary question was how does the Bureau of Medicine and Surgery (BUMED) implement a capitation-based resource allocation concept and how is this model being employed to shape budget development at the MTF level. The subsidiary questions are as follows:

- (1) What are the origins and purpose of capitation-based resource allocation?
- (2) Why and when did the Department of Defense (DoD) adopt a capitation-based approach to financing the MHSS?
- (3) What are the major obstacles to the adoption of a capitation-based approach within the MHSS, and how is DoD addressing these obstacles?
- (4) What is the capitation-based resource allocation model adopted by the Bureau of Medicine and Surgery and how has it changed its budgeting process to meet specific issues affecting Navy medicine?
- (5) What are the implications of a capitation-based resource allocation model for resource managers at the MTF level?

To answer these questions, Chapter II first provided an overview of managed care in the private sector, the different types of managed care organizations, and the elements of a managed care network. A capitation-based budgeting system and its salient characteristics were defined, and its principal advantages, major disadvantages, and potential problems were analyzed.

Chapter III provided an overview of the MHSS direct care system, the TRICARE uniform benefit program, and Health Affairs' capitation financing system. Chapter IV compared BUMED's capitation-based resource allocation approach with Health Affairs' capitation financing system. It also provided an overview of the different information systems in support of the implementation of a capitation-based resource allocation system within the MHSS. The subsequent section addressed the "readiness-focused" capitation, a new programming and budgeting concept adopted by BUMED for POM-98, and evaluated its impact on resource management.

Chapter V presented an analysis and provided findings of the different obstacles to implementing a capitation-based financing system within the MHSS, and how DoD is addressing these issues. The remaining sections of Chapter V discussed the typical incentives facing resource managers at the MTF level and the impact of a capitation-based budgeting system.

## **B. CONCLUSIONS**

The Military Medical Departments have historically provided care under prospectively set budgets. In FY94, DoD adopted and implemented a "modified" capitation-based resource allocation model within the MHSS as an alternative to the traditional incremental financing mechanism. Capitation was introduced as a way to increase coordination of care, offer more flexibility in allocating resources, emphasize preventive services, and develop a stronger sense of provider responsibility for patients. Capitation was designed to be used in conjunction with other elements of managed care, e.g., utilization management, performance outcome, and integrated data-monitoring

technique, to achieve cost savings. Some of these elements are aimed at providers, who are considered the cost drivers, but are poorly “incentivized” by the DoD’s “modified” capitation-based financing system.

Capitation is being attempted within a political and dynamic environment, which makes it even more difficult compared with private sector HMOs. That is, Health Affairs and the Services are implementing capitation while simultaneously introducing other system-wide changes such as business process re-engineering, reducing the size of deployable medical platforms, and trying to determine the proper size of the MHSS.

Another factor that adds to this complexity is the apparent lack of accurate and detailed information on the biggest portion of the MHSS beneficiary population, the retirees, survivors and their families. As indicated in Chapter I, the retirees, survivors and their families represent 50 percent of the MHSS eligible beneficiary population. Despite the fact that they are the biggest consumer of health care resources, the MHSS has the least information about this group of beneficiaries. Due to uncertainty and variability in their use of health care resources, it remains difficult to accurately budget and forecast health care expenditures at the MTF level.

To date, the issue regarding fixed costs remains unresolved between Health Affairs and the three Services. In addition, due to lack of a consensus among the three Services, it is difficult to develop an accurate cost pool for each major capitation category. Specifically, MEPRS codes that are directly attributed to readiness and readiness training requirements must be isolated and realigned from the medical capitated cost (Category III) to develop an accurate capitated rate for the benefit mission. These

are just two examples of some of the issues facing Health Affairs and the Services.

These examples illustrate the difficulty in developing precise categories for capitation within the MHSS.

But while some of the benefits may in fact be achieved, the change introduced by capitation at the MTF level does not appear to be a shift from an incremental financing system. Certainly, it resulted in allocating DHP funds into three major categories, driven by each respective beneficiary population, and safeguarding OCONUS, readiness, education and training, and other military unique functions. However, this approach failed to properly align appropriate incentives with providers' responsibilities and did not provide Navy MTF commanders control of MILPERS and CHAMPUS dollars. In this regard, the DoD's capitation-based resource allocation model has not caused a significant change in the way resources are allocated and managed at the MTF level.

Although the Navy Medical Department (BUMED) allocates DHP resources on the basis of various capitation categories down to the MTF level, the current allocation process blends historical costs and workload considerations. Upon receipt of funds from BUMED, Naval Medical Center, San Diego and Naval Hospital, Corpus Christi, (and most likely all other MTFs within BUMED) still use the traditional incremental budgeting in allocating funds to their various departments. In essence, BUMED's adoption of a capitation-based resource allocation model has not reversed the traditional system of incremental budgeting practices on the MTF level. Capitation on the MTF level boils down to an arbitrary re-allocation of the DHP budget which does little to change the providers' attitudes and incentives toward workload and historical costs.

Capitation in DoD, as it is currently being implemented on a global basis, is of recent vintage. Evidence of its impact at the MTF level is limited. The major findings of this research suggest that there are several overarching problems: inappropriate financial incentives for providers; crudely differentiated capitated rates between the Services, as well as individual MTFs within the same branch of Service; lack of fundamental operational knowledge of managed care and capitation among the MTFs' executive staff and physicians; and failure to incorporate adequate information systems for monitoring costs and delivery of care. Furthermore, one of the greatest limitations to implementing a capitation-based financing system within the MHSS is the apparent lack of participation by the physicians and other health care providers in the transition from the incremental financing system to this new approach.

The other finding of this research is that the ability of the MHSS to demonstrate cost efficiency compared with private sector HMOs has been limited because of a lack of timely and accurate information. This is further exacerbated by inconsistency, variability, and inaccuracy of cost data produced by various information systems. One of management's responsibilities is to provide detailed clinical and financial information to physicians. Invariably, physicians must implement the changes necessary to make sound and informed decision making in order to deliver care in the most appropriate and least expensive setting.

Capitation cannot be seen as the answer to an exceedingly complex and multifaceted set of problems facing the military's health care delivery system. It does, however, show promise as a cost-containing strategy, consolidating important sources of



funding, and contributing to a more coherent system of managed care. There are several serious implementation problems, as described and discussed in Chapter V. The magnitude of these problems has yet to be carefully assessed, and the potential advantages of capitation may well outweigh any liabilities.

### **C. AREAS FOR FURTHER RESEARCH**

The focus of this research was to determine how DoD's capitation-based resource allocation model has evolved and the nature of its impact on resource management at Navy MTFs. There are issues associated with capitation-based financing system that warrant further research, such as the following:

- (1) How cost efficient and cost effective is the capitated rate per patient in a military small hospital compared with a similar size hospital in the private sector?
- (2) To what extent can costs decrease while quality is preserved? In this vein, it would be crucial to examine the issue of appropriate substitution between inpatient service and less-costly outpatient and residential or "home health" care.
- (3) How effective are civilian contractor-provider networks as mechanisms for controlling costs for MTFs, when a contractor is at risk but civilian providers are still reimbursed on a fee-for-service basis?
- (4) Does capitation result in the development of more preventive services and new outpatient services within the MHSS?
- (5) To what extent do Health Affairs, the Department of the Navy, or the other Services use population data such as total numbers of active duty beneficiaries, sex, age, military occupational skills, and geographical location in determining capitation rates and projecting health care expenditures?

## APPENDIX A - MANAGED HEALTH CARE ORGANIZATIONS

### Types of Managed Health Care Organizations<sup>15</sup>

#### HEALTH MAINTENANCE ORGANIZATION (HMO)

Health Maintenance Organizations (HMOs) are organized health care systems that are responsible for financing and delivering a broad range of comprehensive health services to an enrolled population for a prepaid, fixed fee. An HMO can be viewed as a combination of a health insurer and a health care delivery system. Whereas traditional health care insurance companies are responsible for reimbursing covered individuals for the cost of their health care, HMOs are responsible providing health care services to their covered members through affiliated providers.

As a result of their responsibility for providing covered health services to their members, HMOs must assure that their members have access to covered health care services. In addition, HMOs are generally responsible for assuring the quality and appropriateness of health services they provide.

The five common models of HMOs are staff, group practice, network, individual practice association (IPA), and direct contract. The primary differences between each of these models are based on how the HMO relates to its participating physicians.

#### Staff Model

In a staff model HMO, the physicians who serve the HMO's beneficiaries are employed by the HMO. These physicians typically are paid on a salary basis and may also receive bonus or incentive payments based on their performance and productivity. Staff model HMOs must employ physicians in all of the common specialties in order to provide for their members' health care needs. These HMOs may contract with selected subspecialists in the community for infrequently needed health services.

Staff model HMOs are also known as "closed panel" HMOs because most participating physicians are employees of the HMO. Community physicians are unable to participate. Staff model HMOs usually contract with hospitals and other inpatient facilities in the community to provide nonphysician services for their members.

Staff model HMOs can have an advantage relative to other HMO models because they have greater control over the practice patterns of their physicians. As a result, it can be easier for staff model HMOs to manage and control health services.

---

<sup>15</sup>Source: Kongstvedt, Peter R., ed., The Managed Health Care Handbook, (Rockville: Aspen Publishers, Inc, 1996), 11-18.

### Group Model

In group model HMOs, the HMO contracts with a multi-specialty physician group practice to provide all physician services to the HMO's members. The physicians in the group practice are employed by the group practice and not by the HMO. In some cases, these physicians may be allowed to see both HMO patients and other patients, although their primary function may be to treat HMO members.

Physicians in group practices share facilities, equipment, medical records, and support staff. The group may contract with an HMO on an all-inclusive capitation basis to provide physician services to HMO members. Alternatively, the group may contract on a cost basis to provide its services.

### Network Model

In network model HMOs, the HMO contracts with more than one group practice to provide physician services to the HMO's members. These group practices may be broad-based, multi-specialty groups, in which case the HMO resembles the group model described above. Alternatively, the HMO may contract with several small groups of primary care physicians, in which case the HMO can be classified as a primary care network model.

In contrast to staff and group model HMOs, network models may be either closed or open panel plans. If the network model HMO is a closed panel plan, it will only contract with a limited number of existing group practices. If it is an open panel plan, participation in the group practices will be open to any physician who meets the HMO's and group's credentials criteria.

### IPA Model

IPA model HMOs contract with an association of physicians - the independent practice association (IPA) - to provide physician services to their members. The physicians are members of the IPA, which is a separate legal entity, but they remain individual practitioners and retain their separate offices and identities. IPA physicians continue to see their non-HMO patients and maintain their own offices, medical records, and support staff. IPA model HMOs are open panel plans because participation is open to all community physicians who meet the HMO's and IPA's credentials criteria.

### Direct Contract Model

As the name implies, direct contract model HMOs contract directly with individual physicians to provide physician services to their members. With the exception of their direct contractual relationship with participating physicians, direct contract model HMOs are similar to IPA model plans.

Direct contract model HMOs attempt to recruit broad panels of community physicians to provide physician services as participating providers. These HMOs usually recruit both primary care and specialist physicians and typically use a primary care case management approach (also known as the "gatekeeper" system).

Like IPA model plans, direct contract model HMOs compensate their physicians on either a fee-for-service basis or primary care capitation basis. Primary care capitation is much more commonly used by direct contract model HMOs because it helps to limit the financial risk assumed by the HMO. Unlike IPA model HMOs, direct contract model HMOs retain most of the financial risk for providing physician services; IPA model plans transfer this risk to their IPAs.

### INDEPENDENT PRACTICE ASSOCIATION (IPA)

An independent practice association (IPA), which is also known as an individual practice association, is an association of individual, independent physicians or small groups of physicians that has been formed to contract with one or more managed health care organizations. IPAs may adopt any of several organizational forms, including not-for-profit membership corporations, for-profit stock corporations, partnerships, and associations.

IPAs serve several important functions for HMOs and other managed health care organizations. First, they provide a mechanism for translating capitation payments from an HMO into another form of physician payment. HMOs find it desirable to make their payments to physicians and other providers on a capitated basis. In contrast, many physicians are reluctant to accept capitation payment for their services. Many IPAs bridge this gap by accepting capitation payments from HMOs and converting these payments into fee-for-service payments to individual participating physicians.

### PREFERRED PROVIDER ORGANIZATION (PPO)

Preferred provider organizations (PPOs) are entities through which employer health benefit plans and health insurance carriers contract to purchase health care services for covered beneficiaries from a select group of participating providers. Typically, participating providers in PPOs agree to abide by utilization management and other procedures implemented by the PPO and agree to accept the PPO's reimbursement structure and payment levels. In return, PPOs often limit the size of their participating provider panels and provide incentives for their covered individuals to use participating providers instead of other providers. In contrast to typical HMO coverage, individuals with PPO coverage are permitted to use non-PPO providers, although higher levels of coinsurance or deductibles routinely apply to services provided by these non-participating providers.

### INDEPENDENT PRACTITIONER ORGANIZATION (IPO)

Independent practitioner organizations (IPOs) are a hybrid form of entity that has characteristics in common with both IPAs and medical associations. IPOs are generally organized by community physicians to evaluate and negotiate participation in HMOs and other managed care organizations. Whereas the primary purpose of an IPA is to act as a vehicle for physicians to participate in an HMO, the primary purpose of an IPO is to service as a clearing house for information about managed health care organizations for its members physicians.

In general, IPOs do not accept financial risk for providing services to HMO or PPO members. Instead, IPOs collect and review information about how the HMOs and PPOs in their communities operate so they can advise their members about participation.

### EXCLUSIVE PROVIDER ORGANIZATION (EPO)

Exclusive provider organizations (EPOs) are similar to PPOs in their organization and purpose. Unlike PPOs, however, EPOs limit their beneficiaries to participating providers for their health care services. In other words, beneficiaries covered by an EPO are required to receive all of their covered health care services from providers that participate with the EPO. The EPO does not cover services received from other providers.

Some EPOs parallel HMOs in that they require exclusive use of the EPO provider network and also use a "gatekeeper" approach to authorize nonprimary care services. In these cases, the primary difference between an HMO and an EPO is that the former is regulated under HMO laws and regulations while the latter is regulated under insurance laws and regulations.

EPOs usually are implemented by employers whose primary motivation is cost saving. These employers are less concerned about the reaction of their employees to severe restrictions on the choice of health care provider.

## **APPENDIX B - STEPS IN DEVELOPING OASD(HA)'S CAPITATION REQUIREMENT<sup>16</sup>**

### **1. Determine the base year and classify base year obligations by category and subcategory.**

a. The base year is the most recent year for which certified obligations are available.

b. O & M and MILPERS certified obligations are classified by Category 1, 2 or 3 based on obligations reported in the official accounting records (Program Elements) by the three Military Departments and the Medical Expense Performance Reporting System/Expense Assignment System III (MEPRS/EASIII).

c. Category 3 In-house actual obligations are further subdivided by beneficiary category using the ratio of MEPRS/EASIII expenses by beneficiary category described below.

(1) Expenses for the year prior to the base year for Category 3 In-house are obtained from MEPRS/EASIII.

(2) In-house expenses are estimated by beneficiary category using the ratio of Relative Weighted Products (RWPs) reported in the Retrospective Case Mix Analysis System (RCMAS) by beneficiary category for the same year (active duty members, dependents of active duty members, retirees/dependents of retirees under age 65, and retirees/dependents of retirees age 65 and above).

(3) The estimated MEPRS/EASIII expenses by beneficiary category determined above are divided by the appropriate population of that category to obtain an estimated per capita rate. This per capita rate is multiplied by the base year population to obtain an estimate of expenses by beneficiary category for the base year. The new ratio of expenses by beneficiary category is applied to the certified obligations for Category 3 In-house to estimate obligations by beneficiary category for the base year.

d. Category 3 CHAMPUS certified obligations are subdivided by beneficiary category (dependents of active duty members and retirees/dependents of retirees under age 65) using the ratio of CHAMPUS expenses by beneficiary category from the CHAMPUS Medical Information System.

(1) CHAMPUS expenses by beneficiary category are obtained from the CHAMPUS Medical Information System (CMIS).

---

<sup>16</sup>Source: 733 Update Report of the Working Group No. 3 (TRICARE Cost Savings), Draft No. 3, 16 May 1996.

(2) CHAMPUS expenses for each beneficiary category are divided by the population for that category to determine a per capita rate. The per capita rate is multiplied by the base year beneficiary population to estimate CHAMPUS expenses for the base year.

(3) The ratio of estimated CHAMPUS expenses by beneficiary category is used to distribute the CHAMPUS certified obligations for the base year by beneficiary category.

2. Compute the base year per capita rate, where appropriate, by dividing the base year obligations by the appropriate base year “driver” for each subcategory and category.

3. Inflate the base year per capita rate for each subcategory and category using the appropriate composite inflation factor for that subcategory or category. The composite inflation factors are based on approved OSD inflation rates for DHP.

4. Multiply the inflated per capita rate by the new target year population to obtain the target year raw resource requirement value.

5. Apply multiplicative factors to the raw resource requirement value to compute a level of effort resource requirement. Multiplicative factors include: age/sex adjustment, utilization management adjustments, and technology and intensity adjustments.

(The capitation model currently uses a zero percent factor to account for the resource implications of changes in the medical technology/intensity factor. The Institute for Defense Analysis (IDA) was commissioned by the Office of the Director, Program, Analysis and Evaluation (PA&E) to complete a study to determine the appropriate medical technology/intensity factor for the Department. IDA has not yet completed that study).

6. Make appropriate programmatic adjustments to the computed level-of-effort resource requirement. Programmatic adjustments include: foreign currency adjustments, congressional marks, BRAC adjustments, etc.

7. Total the computed level-of-effort resource requirement and all programmatic adjustments to determine the final resource requirement. Divide the final resource requirement by the appropriate population “driver” to determine the new per capita rate for each subcategory and category.

## **APPENDIX C - METHODOLOGY TO DEVELOP A USER POPULATION FOR OASD(HA) CAPITATION BASED RESOURCE ALLOCATION MODEL**

### **HOW USER POPULATION IS CALCULATED**<sup>17</sup>

#### **A. Determine Average Eligible Population**

Projected eligible population is in the Resource Analysis Planning System (RAPS) database. The Military Departments project the number of active duty eligibles by zip code and Unit Identification Code (UIC). RAPS projects the number of active duty family members using historic age and sex dependent ratios of family members and active duty UIC. RAPS projects the retirees, their family members and survivors based on data from DoD actuary reports and historic DEERS family ratios. RAPS recognizes Base Realignment and Closures (BRAC) effects by using projected catchment area directories (CAD).

#### **B. Calculate User Population by Source (Where patient lives)**

OASD(HA) uses an average population rather than the end of year population to more accurately reflect the population served during the year. To obtain the average user population, OASD(HA) estimates how many eligible beneficiaries in a catchment or noncatchment area rely on the MHSS for their medical care (including both direct care and CHAMPUS). RAPS calculates user population by source using the full time equivalent (FTE) percentages from the MHSS user.

Active duty (includes medically eligible Guard and Reserves) members are considered to be 100 percent users. User percentages for other beneficiary categories vary by catchment area. The MHSS user survey provides FTE percentages for the following three categories:

- Active duty family members including Guard and Reserve family members,
- Retirees and their family members including survivors and others less than age 65, and
- Retirees and their family members including survivors and others age 65 and over.

The resulting user by source population is an estimate of the number of eligibles who use the MHSS. However, these user estimates do not identify the health care institution where health care is provided. Many beneficiaries "cross over" catchment area boundaries to obtain care. To partition the estimated users by provider, OASD(HA) estimates "cross over usage."

#### **C. Calculate User Population by Provider (Where patient receives care)**

This calculation adjusts for "cross over" medical care provided by one Military Department for beneficiaries who "belong" to another Military Department. For example, a

---

<sup>17</sup>Source: Chan, E., OASD(HA) FY96/97 Budget Outlook, 23 April 1996.



beneficiary from an Army catchment area routinely gets medical care at a Navy MTF. Under the capitation based resource allocation system, the Army receives a specific amount for each user in the Army's catchment area. However, in this situation, the beneficiary does not use resources at the Army MTF. If no adjustment is made, there is a windfall for the Army and the Navy is shortchanged. Another example where "cross over" implications arise is when an Army beneficiary in a noncatchment area receives care in a Navy or Air Force MTF. No "cross over" effect occurs when the Army beneficiary in a noncatchment area gets care in an Army MTF because the Army is resourced for that beneficiary. The "cross over" ratios apply only to the direct care system because CHAMPUS costs are billed to the responsible Service regardless of where care is provided.

The Retrospective Case Mix Analysis System (RCMAS) provides data for the "cross over" calculation. "Cross over" ratios are based on inpatient data only because detailed ambulatory data is not currently available to develop these calculations.

The "cross-over" ratios are calculated at the Military Department level. To estimate the number of users by provider, OASD(HA) multiplies the number of users by source by the corresponding "cross over" ratio. The results are then re-scaled so that the total DoD users by source equals total DoD users by provider. The capitation model distributes the Category III resources based on the user by Military Department provider, i.e., total catchment users by provider plus total noncatchment users by provider.

## LIST OF REFERENCES

- Aiken, L. H. and Mechanic, D., eds., Paying for Services: Promises and Pitfalls of Capitation, Jossey-Bass, San Francisco, 1989.
- Anderson, L., "Capital Payment Systems (Medical Care), Management, Medical Care, and Utilization," Behavioral Health Management, v. 14, September-October 1994.
- Anthony, R. N. and Herzlinger, N. E., Management Control in Nonprofit Organizations, Revised Edition, Burr Ridge, IL: Irwin, 1988.
- Bergman, R., "Managing Data: Networks Retool Information Systems for Capitation," Hospital & Health Networks, v. 68, 5 April 1994.
- Bloom, J. R., ed. "An Analysis of Capitation for Mental Health Services," Policy Studies Journal, v. 22, Winter 1994.
- Boles, K. E. and Fleming S. T., "Break-even Under Capitation: Pure and Simple?" Health Care Management Review, v. 21, Winter 1996.
- Boyer J. F. and Sobel, L., "CHAMPUS and the Department of Defense Managed Care Programs," Medical Interface, vol. 4, November 1995.
- Byrne, S. B., "Getting Real About Capitation," Hospital & Health Networks, v. 69, 5 September 1995.
- Cave, D. G., "Vertical Integration Models to Prepare Health Systems for Capitation," Health Care Management Review, v. 20, Winter 1995.
- Cerne, F., "Dollars and Sense: Creating Incentives to Effectively Manage Change," Hospitals & Health Networks, v. 68, 5 April 1994.
- Chan, E., (OASD(HA)). Personal Communication. 21 August 1996.
- Congressional Budget Office, Reforming the Military Health Care System, January 1988.
- \_\_\_\_\_, Statement of Neil M. Singer (Acting Assistant Director, National Security Division) on Reforming the Military Health Care System before the Subcommittee on Military Forces and Personnel Committee on Armed Services, 19 April 1994.
- \_\_\_\_\_, Statement of Robert D. Reischauer (Director), before the Subcommittee on Military Forces and Personnel Committee on Armed Services, 10 May 1993.

Congressional Research Service, Defense Budget for FY1997: Major Issues and Congressional Action, 22 August 1996.

Cox, P., LT, MSC, USN, (Lead Agent, Region 9), Personal Interview. 20 September 1996.

Dowling, W. L., Prospective Rate Setting Concept and Practice: Managing the Finances of Health Care Organizations, Ann Arbor, MI: Health Administration Press, 1980.

Dufresne, M. R., "Evaluating Managed Care Networks: An Approach to Providing Cost-effective Health Care to Employees," American Compensation Association, 1995.

Eastaugh, S. R., Health Care Finance - Economic Incentives and Productivity Enhancement, Wesport, CT: Auburn House, 1992.

Enthoven, A. C., and Kronick, R., "Universal Health Insurance Through Incentives Reform," JAMA, v. 265, 15 May 1991.

Feldstein, P. J., Health Care Economics, New York, NY: John Wiley & Sons, 1988.

Flores, K., "Managed Care Contracting: A Systematic Approach," Health Care Strategic Management, v. 5, December 1987.

Foster, S. E., Briefing Paper, Defense Health Program, POM-98, "Navy Medicine: Readiness is True North," 30 April 1995.

Foster, S. E., LCDR, MSC, USN, (N-931). Personal Interview. 13 May 1996.

Frederick, P. L., Briefing Paper, "Capitation Budgeting in the Defense Health Program," 23 August 1996.

Frederick, P. L., COL, MSC, USA, (Director, Program and Budget, OASD(HA)), Personal Interview. 20 August 1996.

Hailstones, T. J., and Mastrianna, F. V., eds., Contemporary Economic Problems and Issues, Cincinnati, OH: South-Western Publishing Co., 1991.

Halvorson, G. C., Strong Medicine, New York, NY: Random House, 1993.

Hamilton, J. C., "Medicine's New Weapon: Data," Health Care Management Review, v. 18, Fall 1994.

Hein, J., "Pilot Project: Preliminary Findings and Recommendations for Bureau of Medicine and Surgery," IAMETER, 9 June 1996.

Hornbrook, M.C., ed., "Determination of Capitation Payment Rates for Medicare HMO Beneficiaries, Executive Summary," HCFA Cooperative, April 1993.

Iglehart, J. K., "Health Policy Report, The American Health Care System," The New England Journal of Medicine, v. 324, 2 April 1992.

Innins, G., LCDR, MSC, USN, (Comptroller, Naval Hospital, Corpus Christi, TX), Personal Interview. 22 November 1996.

Jaklevic, M. C., "Health Referral Services' Latest Line: Stay Home," Modern Health Care, v. 25, 2 January 1995.

Kay, T. L., "Volume and Intensity of Medicare Physicians' Services: An Overview," Health Care Financing Review, v. 11, Summer 1990.

Kearns, P., COL, MSC, USAF (Ret), (OASD(HA)), Personal Interview. 7 November 1996.

Kleiman, M. A., "Preparing for Capitated Hospital Services," Healthcare Financial Management, v. 50, 1 July 1996.

Kolb & Horowitz, "Managing the Transition to Capitation," Healthcare Financial Management, v. 49, 1 February 1995.

Kongstvedt, P. R., ed., The Managed Health Care Handbook, Gaithersburg, MD: Aspen Publishers, Inc., 1996.

Lamar, S. R., "DoD Health Care Reform: TRICARE, A Basic Program Review," May 1994.

Lanier, J. O., and Boone C., "Restructuring Military Health Care: The Winds of Change Blow Stronger," The Journal of the Foundation of the American College of Health Care Executives, v. 38, Spring 1993.

Leibold, V. E., CDR, MSC, USN, (Comptroller, Naval Medical Center, San Diego, CA), Personal Interview. 19 September 1996.

Luft, H.S., et al, Medical Life on the Western Frontier: The Competitive Impact of Prepaid Medical Care Plans in California, University of California-Berkeley Institute of Governmental Studies, Berkeley, CA, 1980.

- Macleod, G. K., "An Overview of Managed Medical Care," Hospital & Health Networks, v. 70, 20 April 1996.
- Montague, J., "Capitation & Physicians: Experienced Providers Say Physician Involvement is Crucial to Success," Hospitals & Health Networks, v. 68, 5 April 1994.
- Montgomery, J. E., "Optimizing Resource Sharing Opportunities Under Managed Care Support Contracts," OCHAMPUS, Denver, December 1994.
- Nudd, L. E., LT, MSC, USN, (N-931), Personal Interview. 20 August 1996.
- Rahn, G., ed., Hospital-Sponsored Health Maintenance Organizations, Issues for Decision Makers, Chicago, IL: American Hospital Publishing, Inc., 1987.
- Rosenstein, A. H., "Health Economics and Resource Management: A Model for Hospital Efficiency," Hospitals & Health Services Administration, v. 36, Fall 1991.
- Scaramozzino, J. A., CAPT, MSC, USN, (Director, Health Resources Study Center, Monterey, CA), Personal Interview. 23 October 1996.
- Schroer, K. A., Hospital Strategies for Contracting with Managed Care Plans, Chicago, IL: American Hospital Publishing, Inc., 1987.
- Shouldice, R. G., Introduction to Managed Care: Health Maintenance Organizations, Preferred Provider Organizations, and Competitive Medical Plans, Arlington, VA: Information Resources Press, 1991.
- Slee, V. N., Health Care Terms, St. Paul, MN: Tringa Press, 1986.
- Starr, P., The Logic of Health-care Reform, Knoxville, TN: Whittle Direct Books, 1992.
- Stearns, S. C., Wolfe, B. L. and Kindig, D. A., "Physician Responses to Fee-For-Service and Capitation Payment," Inquiry, v. 29, Winter, 1992.
- Sullivan, L. M., Briefing Paper, "POM-98 Baseline: BUMED's Resource Conference," 24 May 1996.
- Sullivan, L. M., (MED-111A), Personal Interview. 14 November 1996.
- Toso, M. A. and Farmer, A., "Using Cost Accounting Data to Develop Capitation Rates," Topics in Health Care Financing, v. 21, Fall 1994.

United States Department of Defense, Office of Program Analysis and Evaluation, "The Economics of Sizing the Military Medical Establishment," Executive Report of the Comprehensive Study of the Military Medical Care System, Washington, D.C., March 1994.

United States Department of Defense, Office of the Assistant Secretary of Defense (Health Affairs), Definitions Related to TRICARE Enrollment, Washington, D.C., 14 March 1995.

\_\_\_\_\_, FY-94 Capitation Budgeting Implementation Procedures, Washington, D.C., 12 April 1993.

\_\_\_\_\_, FY96-01 Defense Health Program (DHP) Program Objective Memorandum (POM), Washington, D.C., 8 June 1994.

\_\_\_\_\_, Limiting Access to Space-Available Care and Pharmacy Support in Medical Treatment Facilities, Washington, D.C., 21 June 1994.

\_\_\_\_\_, Minutes of the Capitation Steering Committee, Washington, D.C., 9 September 1993.

\_\_\_\_\_, Overview of Revised TRICARE Managed Care Support (MCS) Financing Approach, Washington, D.C., Undated.

\_\_\_\_\_, Policy for Third Party Billing & Collections in Military Medical Treatment Facilities, Washington, D.C., 13 August 1996.

\_\_\_\_\_, Policy Guidelines for Implementing Managed Care Reforms in the Military Health Services System (MHSS), Washington, D.C., 22 February 1994.

\_\_\_\_\_, Policy Guidelines for Implementing TRICARE Primary Care Programs in the Military Health Services System (MHSS), Washington, D.C., 19 December 1995.

\_\_\_\_\_, Policy Paper on Preparing the Military Health Services System (MHSS) for Capitation-based Resource Allocation, Washington, D.C., 23 July 1993.

\_\_\_\_\_, Report of the Defense Health Program (DHP) Hospital-level Capitation Model Work Group, Washington, D.C., 27 August 1996.

\_\_\_\_\_, Report of the Working Group on 733 Study Update (Draft), Appendix G, Washington, D.C., 16 May 1996.

United States Department of the Navy, Bureau of Medicine and Surgery, A Navy Medical Department Overview: Quality of Life Master Plan, Washington, D.C., 13 October 1995.

\_\_\_\_\_, Control Figures for the Submission of FY 96/FY 97 Medical Budget, Washington, D.C., 15 June 1994.

\_\_\_\_\_, Final Report of the Fixed Costs Working Group, Washington, D.C., 12 August 1996.

United States General Accounting Office, "Report to Congressional Requestors, Defense Health Care," Issues and Challenges Confronting Military Medicine, Washington, D.C., 22 March 1995.

\_\_\_\_\_, "Testimony Before the Subcommittee on Military Personnel, Committee on National Security, House of Representatives, Defense Health Care," DoD's Managed Care Program Continues to Face Challenges, Washington, D.C., 28 March 1995.

Volpp, K., "Costs, Benefits, and the Changing Ethics of Medicine," JAMA, v. 269, 7 April 1993.

Wallack, S. S., "Managed Care: Practice, Pitfalls and Potential," Health Care Financing Review, Annual Supplement, 1991.

Wolford, J. C., ed., "The Growth of Medical Groups Paid Through Capitation in California," The New England Journal of Medicine, v. 333, 21 December 1995.

Zaharias, K., "The Infrastructure & Operational Systems Needed by a Primary Care Medical Group to Support Capitated Managed Care," Seattle, WA: Milliman & Robertson, Inc., 1995.

Zarkowsky, J. and Pellack, J., (MED-01) "How to Live Within a Capitated Budget," July 1994.

## INITIAL DISTRIBUTION LIST

	No. Copies
1. Defense Technical Information Center . . . . .	2
8725 John J. Kingman Road	
STE 0944	
Ft. Belvoir, Virginia 22060-6218	
2. Library, Code 13 . . . . .	2
Naval Postgraduate School	
Monterey, California 93943-5103	
3. Richard B. Doyle . . . . .	1
Naval Postgraduate School	
Code SM/DY	
Monterey, California 93943-5103	
4. Steven R. Lamar . . . . .	2
Naval Postgraduate School	
Code OI/Root Hall, Room #212	
Monterey, California 93943-5103	
5. LT Manuel E. Naguit . . . . .	3
Naval Hospital, Patuxent River	
Code 0400, BLDG 1370	
Naval Air Station	
Patuxent River, Maryland	
6. Bureau of Medicine and Surgery . . . . .	1
MED-01 (ATT: Ms. Lisa Sullivan)	
2300 E Street NW	
Washington, D.C. 20372-5300	
7. Office of the Assistant Secretary of Defense for Health Affairs . . . . .	1
ATT: Mr. Edmund Chan	
Pentagon, Room 3E321	
Washington, D.C. 20301-0005	
8. CDR Virginia E. Leibold, MSC, USN . . . . .	1
Comptroller, Naval Medical Center, San Diego, Bldg 2G	
34800 Bob Wilson Drive	
San Diego, CA 92134-5000	



9. Mrs. Carmen E. Naguit ..... 1  
8298 Birch St.  
Morro Bay, California 93442